CLAIMS

1. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure, in which the top central area or the bottom central area of heat conductive interface of the heat dissipation device (100) where a heat generating device (101) being provided is installed with be heat generating device (101), the central area of heat conductive interface of the mentioned heat dissipation device (100) is installed with a close-loop shunting heat conductive structure, so the heat at the periphery of the heat generating device (101) can be conducted from the outer periphery to the distal heat dissipating segment (104) for being dissipated to the exterior, and the heat at the central area can be conducted through the close-loop shunting heat conductive structure (103) to the distal heat dissipating segment (104) for being dissipated to the exterior;

the mentioned heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure includes the close-loop shunting heat conductive structure (103) is installed between the central area of the base structure (102) of the heat dissipation device (100) and the combining location (c) of the outwardly expanding distal heat dissipating segment (104) and the close-loop shunting heat conductive structure (103);

it mainly consists of:

-- heat dissipation device (100): composed of a heat conductive material, e.g. aluminum, copper, alloy or ceramic material, formed in a plate-like shape, or disc-like shape or polygonal shape, the base structure (102) at the center is installed with the heat generating device (101);

-- heat generating device (101): composed of one or more semiconductor components which generating heat loss such as light emitting diodes (LED), central processing unit (CPU), memory, power semiconductors, rectifier, or power IC, and etc., or composed of an electrically-charged heating member or a heat conductive material receiving external heat, served for being combined with the base structure (102) or directly being

heated by the external from the base structure (102), or served as the active heat generating device such as the electrical or combustion-heated heater, oven or cookware, the heat source thereof is usually disposed at the central bottom of the heat dissipation device, and the heat is transmitted through the heat conductive structure radially extended outward and upward to the distal end of the heat dissipating device, and then dissipated outwardly;

-- close-loop shunting heat conductive structure (103): composed of a heat conductive material, integrally formed with the heat dissipation device (100), or composed of the same or different material with respect to the heat dissipation device (100), and combined or welded between the central location (a) of the base structure (102) close to the heat generating device (101) and the combining location (c) of the distal heat dissipating segment (104) and the close-loop shunting heat conductive structure (103);

the mentioned heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure further includes the heat generating device (101) is installed in the base structure (102) at one or more bottom lateral sides of the heat dissipation device (100), and a close-loop shunting heat conductive structure (103) in one or more loops is installed between one or more sides of the base structure (102) away from the distal heat dissipating segment (104) and the combining location (c) of the distal heat dissipating segment (104) and the close-loop shunting heat conductive structure (103).

2. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure as claimed in claim 1, wherein the close-loop shunting heat conductive structure (103) is installed between the central area of the base structure (102) of the heat dissipation device (100) and the combining location (c) of the horizontally expanding and upwardly extending distal heat dissipating segment (104) and the close-loop shunting heat conductive structure (103); it mainly consists of:

-- heat dissipation device (100): composed of a heat conductive material,

e.g. aluminum, copper, alloy or ceramic material, formed in a U-shaped plate shape, circular cup-like shape or polygonal cup-like shape, or formed in a fork-like cup-shaped structure having upward heat dissipating fork at the outer side, the center of the heat dissipation device (100) is installed with the heat generating device (101), and the close-loop shunting heat conductive structure (103) is installed between the central location (a) of the base structure (102) close to the heat generating device (101) and the combining locations (c) of the distal heat dissipating segment (104) and the close-loop shunting heat conductive structure (103), thereby reducing the temperature differentiation between the central location (a) of the base structure (102) close to the heat generating device (101) and the distal location (d) of the distal heat dissipating segment (104);

-- heat generating device (101): composed of two or more semiconductor components which generating heat loss such as light emitting diodes (LED), central processing unit (CPU), memory, power semiconductors, rectifier, or power IC, and etc., or composed of an electrically-charged heating member or a heat conductive material receiving external heat, served for being combined with the base structure (102) or directly being heated by the external from the base structure (102), or served as the active heat generating device such as the electrical or combustion-heated heater, oven or cookware, the heat source thereof is usually disposed at the central bottom of the heat dissipation device, and the heat is transmitted through the heat conductive structure radially extended outward and upward to the distal end of the heat dissipating device, and then dissipated outwardly;

-- close-loop shunting heat conductive structure (103): composed of a heat conductive material, integrally formed with the heat dissipation device (100), or composed of the same or different material with respect to the heat dissipation device (100), and combined or welded between the central location (a) of the base structure (102) close to the heat generating device (101) and the combining locations (c) of the distal heat dissipating

segment (104) and the close-loop shunting heat conductive structure (103).

3. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure as claimed in claim 1, wherein includes the structure that the heat dissipation device (100) is formed with the central airflow aperture (1022); it mainly consists of:

-- heat dissipation device (100): composed of a heat conductive material, e.g. aluminum, copper, alloy or ceramic material, formed in a U-shaped plate-like shape, circular cup-like shape or polygonal cup-like shape, or formed in a fork-like cup-shaped structure having upward heat dissipating fork at the outer side, the heat dissipation device (100) is formed with the central airflow aperture (1022) and one or more heat generating devices (101) are installed at the periphery of the central airflow aperture (1022), the central airflow aperture (1022) is formed as a single aperture or plural aperture structure, the plural aperture structure include plural individual apertures or net-like apertures or grid-like apertures, the center of the heat dissipation device (100) is installed with the heat generating device (101), and the close-loop shunting heat conductive structure (103) is installed between the central location (a) of the base structure (102) close to the heat generating device (101) and the combining location (c) of the distal heat dissipating segment (104) and the close-loop shunting heat conductive structure (103), thereby reducing the temperature differentiation between the central location (a) of the base structure (102) close to the heat generating device (101) and the combining location (c) of the distal heat dissipating segment (104) and the close-loop shunting heat conductive structure (103);

-- heat generating device (101): composed of two or more semiconductor components which generating heat loss such as light emitting diodes (LED), central processing unit (CPU), memory, power semiconductors, rectifier, or power IC, and etc., or composed of an electrically-charged heating member or a heat conductive material receiving external heat,

served for being combined with the base structure (102) or directly being heated by the external from the base structure (102), or served as the active heat generating device such as the electrical or combustion-heated heater, oven or cookware, the heat source thereof is usually disposed at the central bottom of the heat dissipation device, and the heat is transmitted through the heat conductive structure radially extended outward and upward to the distal end of the heat dissipating device, and then dissipated outwardly;

-- close-loop shunting heat conductive structure (103): composed of a heat conductive material, integrally formed with the heat dissipation device (100), or composed of the same or different material with respect to the heat dissipation device (100), and combined or welded between the central locations (a) of the base structure (102) close to the heat generating devices (101) at the periphery of the central airflow aperture (1022) and the combining location (c) of the distal heat dissipating segment (104) and the close-loop shunting heat conductive structure (103).

4. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure as claimed in claim 1, wherein two or more airflow apertures (1023) are formed at the periphery expanded from the central area of the base structure (102) of the heat dissipation device (100); it mainly consists of:

-- heat dissipation device (100): composed of a heat conductive material, e.g. aluminum, copper, alloy or ceramic material, formed in a U-shaped plate-like shape, circular cup-like shape or polygonal cup-like shape, or formed in a fork-like cup-shaped structure having upward heat dissipating fork at the outer side, two or more airflow apertures (1023) are formed at the periphery expanded from the central area of the base structure (102), which is installed with the heat generating device (101), of the heat dissipation device (100), the airflow apertures (1023) are formed as plural individual apertures or a structure having net-like apertures or grid-like aperture, the center of the heat dissipation device (100) is installed with the

heat generating device (101), and the close-loop shunting heat conductive structure (103) is installed between the central location (a) of the base structure (102) close to the heat generating device (101) and the distal location (d) of the distal heat dissipating segment (104), thereby reducing the temperature differentiation between the central location (a) of the base structure (102) close to the heat generating device (101) and the distal location (d) of the distal heat dissipating segment (104);

-- heat generating device (101): composed of one or more semiconductor components which generating heat loss such as light emitting diodes (LED), central processing unit (CPU), memory, power semiconductors, rectifier, or power IC, and etc., or composed of an electrically-charged heating member or a heat conductive material receiving external heat, served for being combined with the base structure (102) or directly being heated by the external from the base structure (102), or served as the active heat generating device such as the electrical or combustion-heated heater, oven or cookware, the heat source thereof is usually disposed at the central bottom of the heat dissipation device, and the heat is transmitted through the heat conductive structure radially extended outward and upward to the distal end of the heat dissipating device, and then dissipated outwardly;

-- close-loop shunting heat conductive structure (103): composed of a heat conductive material integrally formed with the heat dissipation device (100), or composed of the same or different material with respect to the heat dissipation device (100), and combined or welded between the central location (a) of the base structure (102) close to the heat generating device (101) and the combining location (c) of the distal heat dissipating segment (104) and the close-loop shunting heat conductive structure (103).

5. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure as claimed in claim 1, which includes a heat dissipation device having U-shaped structure (1000), wherein the close-loop shunting heat conductive structure (103) and/or the distal heat

dissipating segment (104) are formed with airflow apertures (1052); the main configuration is that the heat dissipation device having U-shaped structure (1000) is adopted as a foundation, the characteristic is that the close-loop shunting heat conductive structure (103) and/or the distal heat dissipating segment (104) is further formed with the airflow apertures (1052), and the airflow apertures (1052) can be formed as plural individual apertures, or a structure having net-like or grid-like apertures, the top edge of the distal heat dissipating segment (104) can be formed with a multiple-surface or annular or tooth-like crown or fork-like structure, and the surface thereof includes planar or grid-like shape or a structure with the heat dissipation fin.

6. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure as claimed in claim 1, which includes a heat dissipation device having U-shaped structure (1000), wherein the close-loop shunting heat conductive structure (103) and/or the distal heat dissipating segment (104) are formed with a radial grid heat dissipation space; the main configuration is that the heat dissipation device having U-shaped structure (1000) is adopted as a foundation, and the characteristic is that the close-loop shunting heat conductive structure (103) and/or the distal heat dissipating segment (104) is further formed with the radial grid heat dissipation space, the top edge of the distal heat dissipating segment (104) can be formed with a multiple-surface or annular or tooth-like crown or fork-like structure, and the surface thereof includes planar or grid-like shape or a structure with the heat dissipation fin.

7. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure as claimed in claim 1, which includes a heat dissipation device having tubular structure (2000), wherein the periphery of the close-loop shunting heat conductive structure (103) and/or the distal heat dissipating segment (104) and/or the heat dissipation device having tubular structure (2000) are formed with airflow apertures (1052);

the main configuration is that the heat dissipation device having tubular structure (2000) is adopted as a foundation, wherein the heat dissipation device having tubular structure (2000) is composed of a heat conductive material and formed in a tubular shape, the top thereof is formed as an opened or sealed or semi-sealed structure, the bottom thereof is formed as a round plate-like structure, the periphery of the heat dissipation device having tubular structure (2000) is combined with the distal heat dissipating segment (104) composed of an annularly upwardly-extended structure formed in planar or grid-like shape or a surface with the heat dissipation fin, and radially-arranged airflow apertures (1052) are formed on the central area of the distal heat dissipating segment (104) facing the distal end of the distal heat dissipating segment (104), and/or the heat conductive structural surface formed on the close-loop shunting heat conductive structure (103) outwardly expanded towards the distal heat dissipating segment (104), and/or the heat conductive surface formed on the heat dissipation device having tubular structure (2000) outwardly expanded towards the periphery, and the bottom central area of the heat dissipation device having tubular structure (2000) is installed with the heat generating device (101).

8. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure as claimed in claim 1, which includes a heat dissipation device having tubular structure (2000), wherein the close-loop shunting heat conductive structure (103) and/or the distal heat dissipating segment (104) are formed with the radial grid heat dissipation space; the main configuration is that the heat dissipation device having tubular structure (2000) is adopted as a foundation, wherein the heat dissipation device having tubular structure (2000) is composed of a heat conductive material and formed in a tubular shape, the top thereof is formed as an opened or sealed or semi-sealed structure, the bottom thereof is formed as a round plate shaped heat dissipation device (100), the periphery of the heat dissipation device having tubular structure (2000) is

combined with the distal heat dissipating segment (104) composed of an annularly upwardly-extended structure formed in planar or grid-like shape or a surface with the heat dissipation fin, and radially-arranged airflow apertures (1052) are formed on the heat conductive structural surface formed on the close-loop shunting heat conductive structure (103) outwardly expanded towards the distal heat dissipating segment (104), and/or the heat conductive surface formed on the heat dissipation device having tubular structure (2000) outwardly expanded toward the periphery, and the bottom central area of the heat dissipation device having tubular structure (2000) is installed with the heat generating device (101).

9. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure as claimed in claim 1, which is applied in a LED lamp, including the light emitting diodes (111) being annularly arranged at the periphery of the central airflow aperture (1022) at the light projection side of the heat dissipation device (100); wherein:

--heat dissipation device (100): composed of a material having great heat conductivity, integrally formed or assembled by pieces for forming as a hollow member, the radial outer surface is formed as a plane and smooth surface, rib-like surface, grid-like surface, or formed with a structure having net-like or porous shape or having fins, thereby forming an outer heat dissipation surface (105); the radial inner surface is formed as a plane and smooth surface, rib-like surface, grid-like surface, or formed with a structure having net-like or porous shape or having fins, thereby forming an inner heat dissipation surface (106); the housing dimension at one side of the heat dissipation device (100) is gradually enlarged towards the bottom side, and the outer bottom side is defined as a light projection side, the center of the light projection side is formed with a central airflow aperture (1022) allowing air to flow, the housing dimension at the other side of the heat dissipation device (100) is gradually reduced thereby forming the distal heat dissipating segment (104) which is in a sealed or

semi-sealed or opened state for being served as an interface structure connecting with a fastening and electric conducting interface (114);

--the housing of the heat dissipation device (100) close to the distal heat dissipating augment (104) is formed with one or more radial airflow apertures (107), and the radial airflow aperture (107) includes being composed of a grid aperture having pore or net-like structure;

--the center of the heat dissipation device (100) close to the light projection side is formed with the central airflow aperture (1022), the central airflow aperture (1022) is formed as a single aperture or plural aperture structure, the plural aperture structure include plural individual apertures or net-like apertures or grid-like apertures, and the periphery defined along the central airflow aperture (1022) is annularly installed with the light emitting diodes (111);

-- the close-loop shunting heat conductive structure (103) is installed between the inner periphery of the central airflow aperture (1022) at the inner side of the heat dissipation device (100) close to the light projection side and the inner heat dissipation surface (106) defined at the mid portion of the radial housing of the heat dissipation device (100), thereby conducting the heat from the light emitting diodes (111) close to the central airflow aperture (1022);

--close-loop shunting heat conductive structure (103): composed of a heat conductive material and formed as an individual heat conductive structure, installed between the inner heat dissipation surface (106) defined at the mid portion of the radial housing of the heat dissipation device (100) and the inner periphery of the central airflow aperture (1022), the constitution means includes being integrally formed with the heat dissipation device (100) through a die casting or metal casting or punching or forging or processing means, or individually manufactured for being mounted or laminated or welded or riveted or locked between the inner heat dissipation surface (106) defined at the mid portion of the radial housing

of the heat dissipation device (100) and the inner periphery of the central airflow aperture (1022) for conducting heat, the structural configuration includes being formed as a strip-shaped radial structure, or an oblique conical surface, or an oblique conical surface having airflow apertures;

--light emitting diode (111): composed of light emitting diode (111) or a light emitting diode module, arranged at the outer bottom periphery of the light projection side of the heat dissipation device (100), and served to project light according to the set direction;

--secondary optical device (112): composed of a structural device having functions of condensing, defusing, reflecting or refracting the optical energy of the light emitting diode (111) for projecting light to the exterior; the secondary optical device (112) can be optionally installed according to the actual needs;

--light pervious lamp cover (113): made of a light pervious material, provided for covering the light emitting diode (111) so as to protect the light emitting diode (111), allowing the optical energy of the light emitting diode (111) to be transferred through for being projected to the exterior; the light pervious lamp cover (113) can be optionally installed according to the actual needs;

--fastening and electric conducting interface (114): one side thereof is combined with the distal heat dissipating segment (104) of the heat dissipation device (100), the other side is formed as a screw-in type, mount type or lock type lamp head or lamp seat, or an electric conductive interface structure composed of conductive wires or electric conductive terminals, served as a connection interface to the external electric power, and provided with an electric conductive member for being connected with the light emitting diode (111) through a drive circuit device (115) for conducting electric power;

--drive circuit device (115): composed of a solid-state electronic device and/or electromechanical device, provided for converting the electric

power from the fastening and electric conducting interface (114) into the electric power for driving the light emitting diode (111), and provided for setting and controlling the voltage and current of the electric power used for driving the light emitting diode (111); the drive circuit device (115) can be optionally installed according to the actual needs;

-- conductive wire (116): composed of a conductive member having insulation surface, provided for transferring the electric power of the drive circuit device (115) to the light emitting diode (111).

10. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure as claimed in claim 1, which is applied in a LED lamp, including radial airflow apertures (107) being formed at the periphery of lower layer of the heat dissipation device (100) close to the light projection side, and the light emitting diodes (111) being arranged in the housing of the heat dissipation device (100) at the center of the light projection side; wherein:

-- heat dissipation device (100): composed of a material having great heat conductivity, integrally formed or assembled by pieces for forming as a hollow member, the radial outer surface is formed as a plane and smooth surface, rib-like surface, grid-like surface, or formed with a structure having net-like or porous shape or having fins, thereby forming an outer heat dissipation surface (105); the radial inner surface is formed as a plane and smooth surface, rib-like surface, grid-like surface, or formed with a structure having net-like or porous shape or having fins, thereby forming an inner heat dissipation surface (106); the housing dimension at one side of the heat dissipation device (100) is gradually enlarged towards the bottom side, and the outer bottom side is defined as a light projection side, the housing dimension at the other side of the heat dissipation device (100) is gradually reduced thereby forming the distal heat dissipating segment (104) which is in a sealed or semi-sealed or opened state for being served as an interface structure connecting with a fastening and electric

conducting interface (114);

-- the housing of the heat dissipation device (100) close to the distal heat dissipating segment (104) is formed with one or more radial airflow apertures (107) at the upper layer and formed with the radial airflow apertures (107) at the lower layer close to the light projection side, the radial airflow apertures (107) at the upper layer and the radial airflow apertures (107) close to the light projection side include being formed as plural individual apertures or a structure having net-like apertures or grid-like apertures;

-- the center of the housing of the heat dissipation device (100) close to the light projection side is installed with the light emitting diodes (111);

-- the close-loop shunting heat conductive structure (103) is installed between the center at the inner of the housing of the heat dissipation device (100) close to the light projection side and the inner heat dissipation surface (106) defined at the mid portion of the radial housing of the heat dissipation device (100), thereby conducting the heat from the light emitting diodes (111);

-- close-loop shunting heat conductive structure (103): composed of a heat conductive material and formed as an individual heat conductive structure, installed between the inner heat dissipation surface (106) defined at the mid portion of the radial housing of the heat dissipation device (100) and the center at the inner of the housing of the heat dissipation device (100) close to the light projection side, the constitution means includes being integrally formed with the heat dissipation device (100) through a die casting or metal casting or punching or forging or processing means, or individually manufactured for being mounted or laminated or welded or riveted or locked between the inner heat dissipation surface (106) defined at the mid portion of the radial housing of the heat dissipation device (100) and the center at the inner of the housing of the heat dissipation device (100) close to the light projection side for conducting heat, the structural

configuration includes being formed as a strip-shaped radial structure, or an oblique conical surface, or an oblique conical surface having airflow apertures;

-- light emitting diode (111): composed of light emitting diode (111) or a light emitting diode module, arranged at the center of outer bottom of the light projection side of the heat dissipation device (100), and served to project light according to the set direction;

and optionally installed with the secondary optical device (112), the light pervious lamp cover (113), the fastening and electric conducting interface (114), the drive circuit device (115), or the conductive wire (116).

11. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure as claimed in claim 1, which is applied in a LED lamp, including annularly-arranged axial airflow apertures (110) being formed at the periphery of the light projection side of the heat dissipation device (100), and the light emitting diodes (111) being arranged at the center of the housing of the heat dissipation device (100) at the light projection side; wherein:

-- heat dissipation device (100): composed of a material having great heat conductivity, integrally formed or assembled by pieces for forming as a hollow member, the radial outer surface is formed as a plane and smooth surface, rib-like surface, grid-like surface, or formed with a structure having net-like or porous shape or having fins, thereby forming an outer heat dissipation surface (105); the radial inner surface is formed as a plane and smooth surface, rib-like surface, grid-like surface, or formed with a structure having net-like or porous shape or having fins, thereby forming an inner heat dissipation surface (106); the housing dimension at one side of the heat dissipation device (100) is gradually enlarged towards the bottom side, and the outer bottom side is defined as a light projection side, the annularly-arranged axial airflow apertures (110) are formed at the periphery of the light projection side, and the housing dimension at the

other side of the heat dissipation device (100) is gradually reduced thereby forming the distal heat dissipating segment (104) which is in a sealed or semi-sealed or opened state for being served as an interface structure connecting with a fastening and electric conducting interface (114);

-- the housing of the heat dissipation device (100) close to the distal heat dissipating segment (104) is formed with one or more radial airflow apertures (107), the radial airflow apertures (107) include plural individual apertures or a structure having net-like apertures or grid-like apertures;

-- the bottom side near the outer periphery of the light projection side at the bottom of the housing of the heat dissipation device (100) are annularly formed with annularly-arranged axial airflow apertures (110), the annularly-arranged axial airflow apertures (110) include plural individual apertures or a structure having net-like apertures or grid-like apertures;

-- the center of the housing of the heat dissipation device (100) close to the light projection side is installed with the light emitting diodes (111);

-- the close-loop shunting heat conductive structure (103) is installed between the center at the inner of the housing of the heat dissipation device (100) close to the light projection side and the inner heat dissipation surface (106) defined at the mid portion of the radial housing of the heat dissipation device (100), thereby conducting the heat from the light emitting diodes (111);

-- close-loop shunting heat conductive structure (103): composed of a heat conductive material and formed as an individual heat conductive structure, installed between the inner heat dissipation surface (106) defined at the inner mid portion of the radial housing of the heat dissipation device (100) and the center at the inner of the housing of the heat dissipation device (100) close to the light projection side, the constitution means includes being integrally formed with the heat dissipation device (100) through a die casting or metal casting or punching or forging or processing means, or

individually manufactured for being mounted or laminated or welded or riveted or locked between the inner heat dissipation surface (106) defined at the inner mid portion of the radial housing of the heat dissipation device (100) and the center at the inner of the housing of the heat dissipation device (100) close to the light projection side for conducting heat, the structural configuration includes being formed as a strip-shaped radial structure, or an oblique conical surface, or an oblique conical surface having airflow apertures;

-- light emitting diode (111): composed of light emitting diode (111) or a light emitting diode module, arranged at the center of outer bottom of the light projection side of the heat dissipation device (100), and arranged in a circular and downward-facing state and served to project light according to the set direction;

and optionally installed with the secondary optical device (112), the light pervious lamp cover (113), the fastening and electric conducting interface (114), the drive circuit device (115), or the conductive wire (116).

12. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure as claimed in claim 1, which is applied in a LED lamp, including the annularly-arranged axial airflow apertures (110) being annularly formed at the periphery of the light projection side of the heat dissipation device (100) and the central airflow aperture (1022) being formed at the center of the light project side, the light emitting diodes (111) being arranged between the central airflow aperture (1022) and the annually-arranged axial airflow apertures (110) at the light projection side of the heat dissipation device (100); wherein:

-- heat dissipation device (100): composed of a material having great heat conductivity, integrally formed or assembled by pieces for forming as a hollow member, the radial outer surface is formed as a plane and smooth surface, rib-like surface, grid-like surface, or formed with a structure having net-like or porous shape or having fins, thereby forming an outer

heat dissipation surface (105); the radial inner surface is formed as a plane and smooth surface, rib-like surface, grid-like surface, or formed with a structure having net-like or porous shape or having fins, thereby forming an inner heat dissipation surface (106); the housing dimension at one side of the heat dissipation device (100) is gradually enlarged towards the bottom side, and the outer bottom side is defined as a light projection side, the center of the light projection side is formed with the central airflow aperture (1022) allowing air to flow thereby forming axial apertures and the annularly-arranged axial airflow apertures (110) which are annularly arranged, the housing dimension at the other side of the heat dissipation device (100) is gradually reduced thereby forming the distal heat dissipating segment (104) which is in a sealed or semi-sealed or opened state for being served as an interface structure connecting with a fastening and electric conducting interface (114);

-- the housing of the heat dissipation device (100) close to the distal heat dissipating segment (104) is formed with one or more radial airflow apertures (107), the radial airflow apertures (107) include plural individual apertures or net-like apertures or grid-like apertures;

-- the light emitting diodes (111) are annularly arranged between the central airflow aperture (1022) close to the light projection side of the heat dissipation device (100) and the annularly-arranged axial airflow apertures (110); wherein the central airflow aperture (1022) includes single aperture or plural aperture structure, the plural aperture structure include plural individual apertures or net-like apertures or grid-like apertures, the annularly-arranged axial airflow apertures (110) include plural individual apertures or a structure having net-like apertures or grid-like apertures;

-- the close-loop shunting heat conductive structure (103) is installed between the inner periphery of the central airflow aperture (1022) at the inner side of the housing of the heat dissipation device (100) close to the light projection side and the inner heat dissipation surface (106) defined at

the mid portion of the radial housing of the heat dissipation device (100), thereby conducting the heat from the light emitting diodes (111) adjacent to the central airflow aperture (1022);

-- close-loop shunting heat conductive structure (103): composed of a heat conductive material and formed as an individual heat conductive structure, installed between the inner heat dissipation surface (106) defined at the inner mid portion of the radial housing of the heat dissipation device (100) and the inner periphery of the central airflow aperture (1022), the constitution means includes being integrally formed with the heat dissipation device (100) through a die casting or metal casting or punching or forging or processing means, or individually manufactured for being mounted or laminated or welded or riveted or locked between the inner heat dissipation surface (106) defined at the inner mid portion of the radial housing of the heat dissipation device (100) and the inner periphery of the central airflow aperture (1022) for conducting heat, the structural configuration includes being formed as a strip-shaped radial structure, or an oblique conical surface, or an oblique conical surface having airflow apertures;

-- light emitting diode (111): composed of light emitting diode (111) or a light emitting diode module, arranged between the outer periphery of the central airflow aperture (1022) and the annularly-arranged axial airflow apertures (110) of the light projection side of the heat dissipation device (100), and between the annularly-arranged axial airflow apertures (110) and the outer periphery of the heat dissipation device (100), downward-facing arranged in ring shape in two or more rings, and served to project light according to the set direction;

and optionally installed with the secondary optical device (112), the light pervious lamp cover (113), the fastening and electric conducting interface (114), the drive circuit device (115), or the conductive wire (116).

13. A heat dissipation device having lateral-spreading heat dissipating and

shunting heat conductive structure as claimed in claim 1, wherein the structural members and the structural characteristics can be selected from the followings with respect to the actual application, including:

-- the heat dissipation device (100), the heat dissipation device having U-shaped structure (1000), or the heat dissipation device having tubular structure (2000) is installed with a part or all of the central airflow aperture (1022), the annularly-arranged axial airflow aperture (110), the radial airflow aperture (107), the airflow aperture (1023) and the airflow aperture (1052), and the installed quantity of each type of the airflow apertures.

14. A heat dissipation device having lateral-spreading heat dissipating and shunting heat conductive structure as claimed in claim 1, wherein the housing contour of the heat dissipation device (100) includes:

(a) formed as a hollow cup-shaped member having smaller top and larger bottom; or

(b) formed as a hollow cup-shaped member having larger top and smaller bottom; or

(c) formed as a hollow cup-shaped member being parallel or substantially-parallel;

the hollow housing cross section of the heat dissipation device (100) includes:

(a) formed as a hollow tubular structure with round or round-like shape; or

(b) formed as a hollow tubular structure having polygonal shape with three or more sides or polygonal-like shape.

CLAIMS:

1. A heat dissipation device comprising:

a lateral-spreading heat dissipating structure having a base structure, said base structure having a top surface and a bottom surface;

a closed-loop shunting heat conductive structure having a first end and a second end;

a distal heat dissipating segment configured to dissipate heat to an exterior of the heat dissipation device, said distal heat dissipating segment is connected to at least one end of the lateral-spreading heat dissipating structure; and

a heat generating unit, said heat generating unit provided on the top surface or the bottom surface of the base structure,

wherein the first end of the closed-loop shunting heat conductive structure is connected on the opposite surface of the base structure than the heat generating unit and the second end of the closed-loop shunting heat conductive structure is connected to the distal heat dissipating segment so that heat generated from the heat generating unit is conducted through the closed-loop shunting heat conductive structure to the distal heat dissipating segment to be dissipated to the exterior of the heat dissipation device.

2. The heat dissipation device according to claim 1, wherein the heat dissipation device comprises a heat conductive material selected from the group consisting of aluminum, copper, a metal alloy, and ceramic material.

3. The heat dissipation device according to claim 1, wherein the heat generating unit is disposed at a center of the base structure, and

wherein the first end of the closed-loop shunting heat conductive structure is connected to a central area at the center of the base structure of the lateral-spreading heat dissipating structure.

4. The heat dissipation device according to claim 1, wherein the heat generating unit comprises at least one of a lamp configured to emit light and generate heat as a result of the emission of light, an electrically-charged heating member, or a heat conductive material configured to receive heat from a source external to the heat dissipation device,

wherein the heat generating unit is installed at a center area on the bottom surface of the base structure, wherein said lateral-spreading heat dissipating structure extends radially and outwardly from the center area of the base structure and said distal heat dissipating segment extends upwardly from the base structure so that heat is conducted to the distal heat dissipating segment to dissipate the heat to the exterior.

5. The heat dissipation device according to claim 1, wherein the closed-loop shunting heat conductive structure comprises a heat conductive material, and said closed-loop shunting heat conductive structure being integrally formed with the heat dissipation device or combined or welded with the base structure proximate to the heat generating unit and at a combining location with the distal heat dissipating segment.

6. The heat dissipation device according to claim 1, wherein the base structure of the lateral-spreading heat dissipating structure has a first end and a second end, wherein the heat generating unit is disposed proximate the first end of the base structure at the bottom surface of the base structure, and the first end of the closed-loop shunting heat conductive structure is connected to the first end of the base structure and the distal heat dissipating segment is connected to the second end of the base structure.

7. The heat dissipation device according to claim 1, wherein the distal heat dissipating segment extends upwardly away from either the top surface or the bottom surface of the base structure, wherein the heat generating unit is disposed at a center of the lateral-spreading heat dissipating structure, wherein the first end of the closed-loop shunting heat conductive structure is connected to the base structure at the center of the lateral-spreading heating dissipating structure and the second end of the closed-loop shunting heat conductive structure is connected to the upwardly extending distal heat dissipating segment in a way such that a temperature difference at the center of the lateral-spreading heat dissipating structure and a distal location of the distal heat dissipating segment is reduced.

8. The heat dissipation device according to claim 1, wherein the heat dissipation device is formed as a U-shaped plate shaped, a circular cup-like shaped, a polygonal cup-like shaped, or formed in a fork-like cup-shaped structure.

9. The heat dissipation device according to claim 6, wherein the distal heat dissipating segment extends upwardly away from either the top surface or the bottom surface of the base structure.

10. The heat dissipation device according to claim 1, further comprising at least a second heat generating unit, wherein the heat generating unit and the at least one second heat generating unit are annularly arranged on the base structure around a center of the base structure of the lateral-spreading heat dissipating structure, wherein the distal heat dissipating segment extends upwardly away from either the top surface or the bottom surface of the base structure, wherein the first end of the closed-loop shunting heat conductive structure is connected to the base structure proximate to the center of the base structure and the second end of the closed-loop shunting heat conductive structure is connected to a distal end of the upwardly extending distal heat dissipating segment in a way such that a temperature difference at the center of the lateral-spreading heat dissipating structure and the distal location of the distal heat dissipating segment is reduced.

11. The heat dissipation device according to claim 10, further comprising a central airflow aperture at a center of the base structure, wherein the heat generating unit and the at least one second heat generating unit are annularly arranged on the base structure around a periphery of the central airflow aperture.

12. The heat dissipation device according to claim 11, wherein the central airflow aperture is formed as a single aperture or plural aperture structure.

13. The heat dissipation device according to claim 12, wherein the plural aperture structure includes plural individual apertures or net-like apertures or grid-like apertures.

14. The heat dissipation device according to claim 10, wherein the base structure further comprises at least two airflow apertures formed at an outer periphery of the base structure.

15. The heat dissipation device according to claim 1, wherein the heat dissipation device has a U-shaped structure, wherein at least one of the closed-loop shunting heat conductive structure and the distal heat dissipating segment comprises at least one airflow aperture, and wherein a top edge of the distal heat dissipating segment is formed with a multiple-surface or annular or tooth-like crown or fork-like structure.

16. The heat dissipation device according to claim 1, wherein the heat dissipation device has a U-shaped structure, wherein at least one of the closed-loop shunting heat conductive structure and the distal heat dissipating segment comprise a radial grid heat dissipation space.

17. The heat dissipation device according to claim 1, wherein the heat dissipation device has a tubular structure, wherein at least one of the closed-loop shunting heat conductive structure, the distal heat dissipating segment, and the heat dissipation device has at least one airflow aperture.

18. The heat dissipation device according to claim 17, wherein the heat dissipation device having the tubular structure has an opened or sealed or semi-sealed top structure, wherein the lateral-spreading heat dissipating structure is formed as a round plate-like structure as a bottom of the heat dissipation device, wherein the distal heat dissipating segment extends upwardly away from the top surface of the base structure of the lateral-spreading heat dissipating structure forming walls of the heat dissipation device, wherein airflow apertures are radially-arranged around a periphery of the walls of the heat dissipation device at a center area of the distal heat dissipating segment, and wherein the heat generating unit is provided at a center portion of the bottom surface of the base structure.

19. The heat dissipation device according to claim 1, wherein the heat dissipation device has a tubular structure having a top formed as an opened or sealed or semi-sealed structure, a bottom thereof formed by the lateral-spreading heat dissipating structure, said lateral-spreading heat dissipating structure being formed as a round plate shaped bottom, and walls formed by the distal heat dissipating segment, said distal heat

dissipating segment formed to extend upwardly away from the top surface of the base structure,

wherein at least one of the closed-loop shunting heat conductive structure and the distal heat dissipating segment is formed with a radial grid heat dissipation space,

wherein airflow apertures are formed on at least one of the closed-loop shunting heat conductive structure, the lateral-spreading heat dissipating structure, and the distal heat dissipating segment, and

wherein the heat generating unit is disposed at a center area of the base structure.

20. LED lamp comprising the heat dissipation device according to claim 1, wherein the lateral-spreading heat dissipating structure is formed as a round plate structure and comprises a central airflow aperture at a center of the round plate structure,

wherein said heat generating unit comprises light emitting diodes arranged annularly around a periphery of the central airflow aperture on the bottom surface of the base plate,

wherein the distal heat dissipating segment extends upwardly from the top surface of the base structure to form walls of the LED lamp, said distal heat dissipating segment extending upwardly from the top surface of the base structure in a way such that the heat dissipating segment curves inwardly towards a center axis of the lateral-spreading heat dissipating structure from a first end of the heat dissipating segment connected to the base structure to a second end of the heat dissipating segment away from the base structure, said second end of the heat dissipating segment being closer to the center axis of the lateral-spreading heat dissipating structure and forming an open, sealed, or semi-sealed top structure of the LED lamp for connecting with a fastening or electric interface,

wherein at least one of the lateral-spreading heat dissipating structure and the distal heat dissipating segment comprises at least one airflow aperture, and

wherein the first end of the closed-loop shunting heat conductive structure is connected to the base structure of the lateral-spreading dissipating structure around a periphery of the central airflow aperture.

21. The LED lamp according to claim 20, further comprising a secondary optical device, said secondary optical device comprising a structural device configured to

condense, defuse, reflect or refract optical energy from the light emitting diodes to project light to an exterior of the LED lamp.

22. The LED lamp according to claim 20, further comprising a light pervious lamp cover made of a light pervious material configured to cover the light emitting diodes so as to protect the light emitting diodes.

23. The LED lamp according to claim 20, further comprising a fastening and electric conducting interface, wherein one side of the fastening and electric conducting interface is connected to the distal heat dissipating segment and the other side is formed as a screw-in type, mount type, or lock type lamp head or lamp seat, or an electric conductive interface structure composed of conductive wires or electric conductive terminals, said fastening and electric conducting interface being configured to serve as a connection interface to an external electric power, and provided with an electric conductive member configured to connect the light emitting diodes for supplying electric power.

24. The LED lamp according to claim 23, further comprising a drive circuit device composed of a solid-state electronic device and/or electromechanical device configured to convert the electric power from the fastening and electric conducting interface into the electric power for driving the light emitting diodes, and configured to set and control voltage and current of the electric power used for driving the light emitting diodes.

25. The LED lamp according to claim 24, further comprising a conductive wire composed of a conductive member having an insulation surface, said conductive wire configured to transfer the electric power from the drive circuit device to the light emitting diodes.

26. The LED lamp according to claim 20, wherein the closed-loop shunting heat dissipating structure is formed as a strip-shaped radial structure, an oblique conical surface, or an oblique conical surface having airflow apertures.

27. A LED lamp comprising the heat dissipation device according to claim 1, wherein the lateral-spreading heat dissipating structure forms a bottom of the LED lamp

and said base structure forms a convex structure,

wherein said heat generating unit comprises at least one light emitting diode disposed at a center of the bottom surface of the base structure,

wherein the distal heat dissipating segment extends upwardly from the top surface of the base structure to form walls of the LED lamp, said distal heat dissipating segment extending upwardly from the top surface of the base structure in a way such that the heat dissipating segment curves inwardly towards a center axis of the lateral-spreading heat dissipating structure from a first end of the heat dissipating segment connected to the base structure to a second end of the heat dissipating segment away from the base structure, said second end of the heat dissipating segment being closer to the center axis of the lateral-spreading heat dissipating structure and forming an open, sealed, or semi-sealed top structure of the LED lamp for connecting with a fastening or electric interface,

wherein the first end of the closed-loop shunting heat conductive structure is connected to the top surface of the base structure proximate a center of the base structure, and

wherein at least one of the lateral-spreading heat dissipating structure, the closed-loop shunting heat conductive structure, and the distal heat dissipating segment comprises airflow apertures.

28. The LED lamp according to claim 27, wherein the closed-loop shunting heat conductive structure is integrally formed with the heat dissipating device.

29. A LED lamp comprising the heat dissipation device according to claim 1, wherein the lateral-spreading heat dissipating structure is formed as a round plate structure and comprises a central airflow aperture at a center of the round plate structure and peripheral airflow apertures annularly arranged around a periphery of the central airflow aperture,

wherein said heat generating unit comprises light emitting diodes arranged annularly around a periphery of the central airflow aperture and annularly around the peripheral airflow apertures on the bottom surface of the base plate,

wherein the distal heat dissipating segment extends upwardly from the top surface of the base structure to form walls of the LED lamp, said distal heat dissipating

segment extending upwardly from the top surface of the base structure in a way such that the heat dissipating segment curves inwardly towards a center axis of the lateral-spreading heat dissipating structure from a first end of the heat dissipating segment connected to the base structure to a second end of the heat dissipating segment away from the base structure, said second end of the heat dissipating segment being closer to the center axis of the lateral-spreading heat dissipating structure and forming an open, sealed, or semi-sealed top structure of the LED lamp for connecting with a fastening or electric interface,

wherein at least one of the lateral-spreading heat dissipating structure and the distal heat dissipating segment comprises at least one airflow aperture, and

wherein the first end of the closed-loop shunting heat conductive structure is connected to the base structure of the lateral-spreading dissipating structure around a periphery of the central airflow aperture.

30. The heat dissipation device according to claim 1, wherein the heat generating unit comprises at least one of a semiconductor having heat loss, a central process unit, memory, power semiconductor, rectifier, a power-type IC in which heat loss is generated, and a heater, oven, or cooking ware operated through electric power or thermal combustion.