

CLAIMS**What is claimed is:**

1. A multi-color light emitting pixel unit, comprising:
a first type of light emitting transistor formed on a substrate and including a first segment of a
5 first metal layer and a first segment of a first type of light emitting layer in an order from bottom to top;
and
a second type of light emitting transistor formed on the substrate and including a second segment
of the first metal layer, a second segment of the first type of light emitting layer, a first segment of a
second metal layer, a first segment of a second type of light emitting layer in an order from bottom to top,
10 and a first electrical connector connecting the second segment of the first metal layer and the first
segment of the second metal layer.
2. The multi-color light emitting pixel unit of claim 1, further comprising:
a top electrode layer formed over the first type of light emitting transistor and the second type of
light emitting transistor.
- 15 3. The multi-color light emitting pixel unit of claim 2, further comprising:
a top isolation layer formed between the top electrode layer and the first and second types of light
emitting transistors,
wherein the top isolation layer includes openings exposing a portion of the first segment of the
first type of light emitting layer and a portion of the first segment of the second type of light emitting
20 layer, and
the top electrode layer contacts the first segment of the first type of light emitting layer and the
first segment of the second type of light emitting layer via the openings in the top isolation layer.
4. The multi-color light emitting pixel unit of claim 1, wherein a size of a light emitting area of
the first type of light emitting transistor is different from a size of a light emitting area of the second type
25 of light emitting transistor.
5. The multi-color light emitting pixel unit of claim 1, wherein the first type of light emitting
transistor is a red light emitting transistor, and
a size of a light emitting area of the first type of light emitting transistor is larger than a size of a
light emitting area of the second type of light emitting transistor.
- 30 6. The multi-color light emitting pixel unit of claim 1, further comprising:
micro-gap structures in at least one of the first type of light emitting layer and the second type of
light emitting layer.
7. The multi-color light emitting pixel unit of claim 1, further comprising:
micro-gap structures in both of the first type of light emitting layer and the second type of light
35 emitting layer.
8. The multi-color light emitting pixel unit of claim 7, wherein, in the second type of light
emitting transistor, the micro-gap structures in the first segment of the second type of light emitting layer
are staggered relative the micro-gap structures in the second segment of the first type of light emitting

layer.

9. The multi-color light emitting pixel unit of claim 1, further comprising:

a third type of light emitting transistor formed on the substrate and including a third segment of the first metal layer, a third segment of the first type of light emitting layer, a second segment of the second metal layer, a second segment of the second type of light emitting layer, a first segment of a third metal layer, and a first segment of a third type of light emitting layer in an order from bottom to top, and a second electrical connector connecting the third segment of the first metal layer, the second segment of the second metal layer, and the first segment of the third metal layer.

10. The multi-color light emitting pixel unit of claim 9, further comprising:

a top electrode layer formed over the first type of light emitting transistor, the second type of light emitting transistor, and the third type of light emitting transistor.

11. The multi-color light emitting pixel unit of claim 10, further comprising:

a top isolation layer formed between the top electrode layer and the first, second, and third types of light emitting transistors,

wherein the top isolation layer includes openings exposing a portion of the first segment of the first type of light emitting layer, a portion of the first segment of the second type of light emitting layer, and a portion of the first segment of the third type of light emitting layer, and

the top electrode layer contacts the first segment of the first type of light emitting layer, the first segment of the second type of light emitting layer, and the first segment of the third type of light emitting layer via the openings in the top isolation layer.

12. The multi-color light emitting pixel unit of claim 9, wherein sizes of light emitting areas of the first type of light emitting transistor, the second type of light emitting transistor, and the third type of light emitting transistor are different from each other.

13. The multi-color light emitting pixel unit of claim 9, wherein the first type of light emitting transistor is a red light emitting transistor, and

a size of a light emitting area of the first type of light emitting transistor is larger than a size of a light emitting area of the second type of light emitting transistor, and the size of the light emitting area of the second type of light emitting transistor is larger than a size of a light emitting area of the third type of light emitting transistor.

14. The multi-color light emitting pixel unit of claim 9, further comprising:

micro-gap structures in at least one of the first type of light emitting layer, the second type of light emitting layer, and the third type of light emitting layer.

15. The multi-color light emitting pixel unit of claim 9, further comprising:

micro-gap structures in all of the first type of light emitting layer, the second type of light emitting layer, and the third type of light emitting layer.

16. The multi-color light emitting pixel unit of claim 15, wherein,

in the second type of light emitting transistor, the micro-gap structures in the first segment of the second type of light emitting layer are staggered relative to the micro-gap structures in the second

segment of the first type of light emitting layer, and

in the third type of light emitting transistor, the micro-gap structures in the first segment of the third type of light emitting layer are staggered relative to the micro-gap structures in the second segment of the second type of light emitting layer, and the micro-gap structures in the second segment of the second type of light emitting layer are staggered relative to the micro-gap structures in the third segment of the first type of light emitting layer.

17. The multi-color light emitting pixel unit of claim 1, wherein a height of the first type of light emitting transistor is different from a height of the second type of light emitting transistor.

18. The multi-color light emitting pixel unit of claim 1, wherein a height of the first type of light emitting transistor is different from a height of the second type of light emitting transistor, and the height of the second type of light emitting transistor is different from a height of the third type of light emitting transistor.

19. A micro display panel comprising the multi-color light emitting pixel unit of claim 1.

15