

| PACKAGE DIMENSION  | INTERNAL CIRCUIT DIAGRAM  |
|--|---|
| <p style="font-size: small;">NOTE: All Dimension Are In Millimeters And (Inch)<br/>Tolerance Is <math>\pm 0.25(0.01)</math> Unless Otherwise Noted</p> | <p style="text-align: center;">LSD431X-XX</p> <p style="text-align: center;">LSD432X-XX</p> |

**• Connection To Electrical Schematic**

| <i>Electrical Connection</i> |                |         |              |
|------------------------------|----------------|---------|--------------|
| PIN NO.                      | LSD431X-XX     | PIN NO. | LSD432X-XX   |
| 1                            | Anode A        | 1       | Cathode A    |
| 2                            | Anode F        | 2       | Cathode F    |
| 3                            | Common Cathode | 3       | Common Anode |
| 4                            | No Pin         | 4       | No Pin       |
| 5                            | No Pin         | 5       | No Pin       |
| 6                            | Anode LDP      | 6       | Cathode LDP  |
| 7                            | Anode E        | 7       | Cathode E    |
| 8                            | Anode D        | 8       | Cathode D    |
| 9                            | Anode RDP      | 9       | Cathode RDP  |
| 10                           | Anode C        | 10      | Cathode C    |
| 11                           | Anode G        | 11      | Cathode G    |
| 12                           | No Pin         | 12      | No Pin       |
| 13                           | Anode B        | 13      | Cathode B    |
| 14                           | Common Cathode | 14      | Common Anode |

• Part Selection And Application Information ( Ratings At 25°C Ambient)

| PART NO    | CHIP      |         | common cathode or anode | $\lambda_P$ (nm) | $\Delta\lambda$ (nm) | Electrical |      |     |         |      | IV-M |
|------------|-----------|---------|-------------------------|------------------|----------------------|------------|------|-----|---------|------|------|
|            |           |         |                         |                  |                      | Vf(v)      |      |     | Iv(mcd) |      |      |
|            | Material  | Emitted |                         |                  |                      | Min        | Typ. | Max | Min     | Typ. |      |
| LSD4316-XX | GaAlAs    | Red     | Common Cathode          | 660              | 20                   | 1.5        | 1.7  | 2.4 | 6.6     | 11   | 2:1  |
| LSD4315-XX | GaAlAs    | Red     |                         | 660              | 20                   | 1.5        | 1.7  | 2.4 | 3.0     | 5.5  | 2:1  |
| LSD4311-XX | GaP       | Red     |                         | 697              | 90                   | 1.7        | 2.1  | 2.8 | 0.5     | 0.9  | 2:1  |
| LSD4312-XX | GaP       | Green   |                         | 565              | 30                   | 1.7        | 2.1  | 2.8 | 1.5     | 2.8  | 2:1  |
| LSD4313-XX | GaAsP/GaP | Yellow  |                         | 585              | 35                   | 1.7        | 2.0  | 2.8 | 1.1     | 1.8  | 2:1  |
| LSD4314-XX | GaAsP/GaP | Orange  |                         | 635              | 45                   | 1.7        | 2.0  | 2.8 | 1.8     | 3.0  | 2:1  |
| LSD4326-XX | GaAlAs    | Red     | Common Anode            | 660              | 20                   | 1.5        | 1.7  | 2.4 | 6       | 11   | 2:1  |
| LSD4325-XX | GaAlAs    | Red     |                         | 660              | 20                   | 1.5        | 1.7  | 2.4 | 3.0     | 5.5  | 2:1  |
| LSD4321-XX | GaP       | Red     |                         | 697              | 90                   | 1.7        | 2.1  | 2.8 | 0.5     | 0.9  | 2:1  |
| LSD4322-XX | GaP       | Green   |                         | 565              | 30                   | 1.7        | 2.1  | 2.8 | 1.5     | 2.8  | 2:1  |
| LSD4323-XX | GaAsP/GaP | Yellow  |                         | 585              | 35                   | 1.7        | 2.0  | 2.8 | 1.1     | 1.8  | 2:1  |
| LSD4324-XX | GaAsP/GaP | Orange  |                         | 635              | 45                   | 1.7        | 2.0  | 2.8 | 1.8     | 3.0  | 2:1  |

• Absolute Maximum Rating (Ta=25°C)

| Parameter  | Red             |      |      | Green |      | Yellow |      | Orange |     | Unit  | Remark |
|--|-----------------|------|------|-------|------|--------|------|--------|-----|-------|--------|
|  | SR              | HR   | H    | G     | Y    |        | E    |        |     |       |        |
| Forward Current Per Chip                             | 40              | 40   | 15   | 30    | 20   |        | 30   |        | 30  | mA    |        |
| Peak Current Per Chip (Duty 1/10, 0.1MS Pulse Width) | 200             | 200  | 60   | 120   | 80   |        | 120  |        | 120 | mA    |        |
| Power Dissipation Per Chip                           | 110             | 45   | 100  | 85    | 100  |        |      |        |     | mW    |        |
| Derating Linear From 25°C Per Chip                   | 0.45            | 0.25 | 0.45 | 0.45  | 0.45 |        | 0.45 |        |     | mA/°C |        |
| Reverse Current Per Any Chip                         | 10              |      |      | 10    | 10   |        | 10   |        |     | μA    |        |
| Operating Temperature                                | -40°C TO +85°C  |      |      |       |      |        |      |        |     |       |        |
| Storage Temperature                                  | -40°C TO +100°C |      |      |       |      |        |      |        |     |       |        |

Solder Temperature 1/16 Inch Below Seating Plane For 3 Seconds At 260°C

• Test Condition For Each Parameter

| Parameter                         | Symbol          | Unit | Test Condition |
|-----------------------------------|-----------------|------|----------------|
| Forward Voltage Per Chip          | Vf              | volt | If=20mA        |
| Luminous Intensity Per Chip       | Iv              | mcd  | If=10mA        |
| Peak Emission Wavelength          | $\lambda_P$     | nm   | If=20mA        |
| Spectral Line Half-Width          | $\Delta\lambda$ | nm   | If=20mA        |
| Reverse Current Any Chip          | Ir              | μA   | Vr=5V          |
| Luminous Intensity Matching Ratio | IV-M            |      |                |