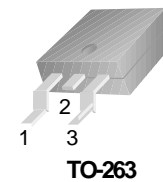
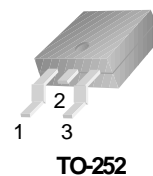
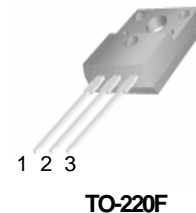
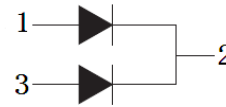


**SCHOTTKY BARRIER DIODE**
**APPLICATIONS**

- High frequency switch power supply
- Free wheeling diodes, polarity protection applications

**FEATURES**

- Common cathode structure
- Low power loss, high efficiency
- High Operating Junction Temperature
- Guard ring for overvoltage protection, High reliability
- RoHS product


**ORDER INFORMATION**

| Product      | Package | Pin Assignment |   |   | Packing   |
|--------------|---------|----------------|---|---|-----------|
|              |         | 1              | 2 | 3 |           |
| MBR10100LCT  | TO-220  | A              | K | A | Tube      |
| MBR10100LFCT | TO-220F | A              | K | A | Tube      |
| MBR10100LYCT | TO-263  | A              | K | A | Tape Reel |
| MBR10100LDCT | TO-252  | A              | K | A | Tape Reel |

**ABSOLUTE RATINGS (T<sub>c</sub>=25°C)**

| Parameter   |  | Symbol             | Value    | Unit |
|---|--|--------------------|----------|------|
| Repetitive peak reverse voltage   |  | V <sub>RRM</sub>   | 100      | V    |
| Maximum DC blocking voltage   |  | V <sub>DC</sub>    | 100      | V    |
| Average forward current   | T <sub>c</sub> =150°C<br>(TO-220/263/<br>TO-252) | I <sub>F(AV)</sub> | 10       | A    |
|   | T <sub>c</sub> =125°C<br>(TO-220F)               |                    | 5        |      |
| Surge non repetitive forward current<br>8.3 ms single half-sine-wave (JEDEC Method) |  | I <sub>FSM</sub>   | 152      | A    |
| Maximum junction temperature  |  | T <sub>j</sub>     | 150      | °C   |
| Storage temperature range   |  | T <sub>STG</sub>   | -40~+150 | °C   |



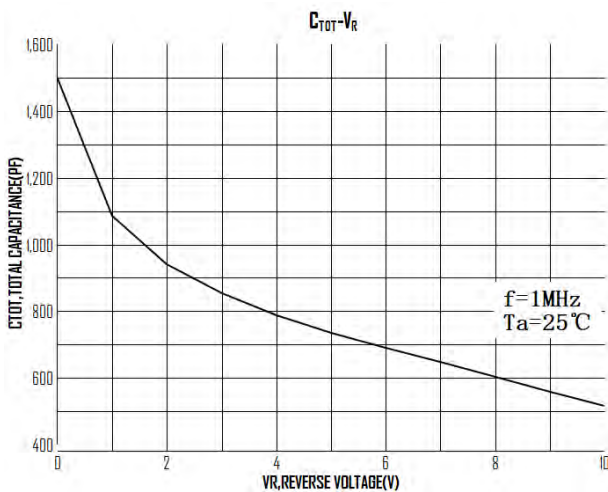
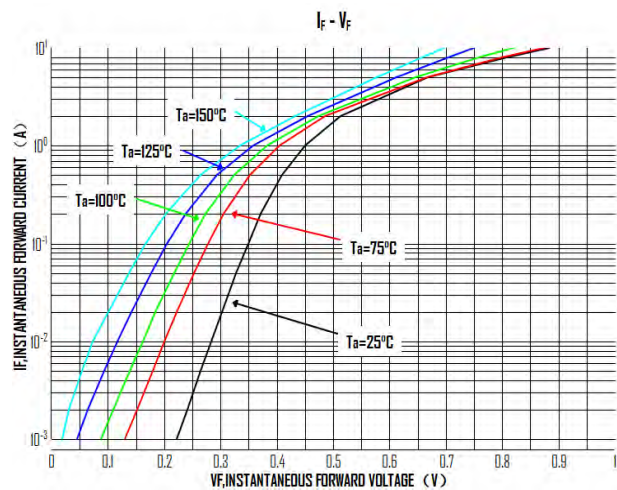
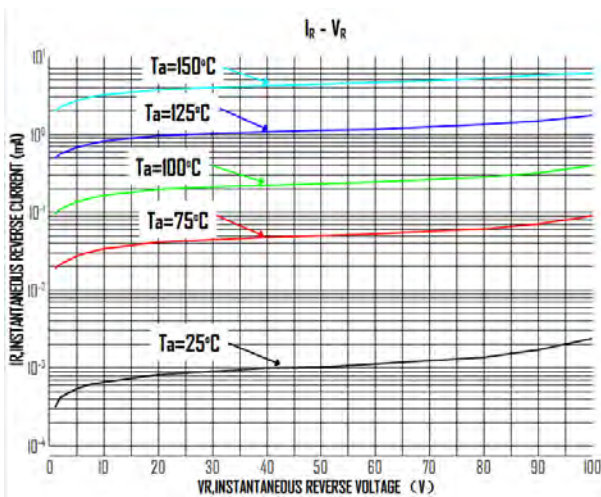
**ELECTRICAL CHARACTERISTICS**

| Parameter | Tests conditions         |                   | Value(min) | Value(typ) | Value(max) | Unit          |
|-----------|--------------------------|-------------------|------------|------------|------------|---------------|
| $I_R$     | $T_j = 25^\circ\text{C}$ | $V_R = V_{RRM}$   |            |            | 10         | $\mu\text{A}$ |
| $V_F$     | $T_j = 25^\circ\text{C}$ | $I_F = 5\text{A}$ |            | 0.67       | 0.75       | V             |

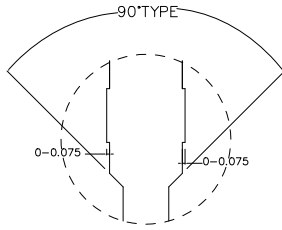
**THERMAL CHARACTERISTICS**

| Parameter                                |         | Symbol        | Value(min) | Value(max) | Unit               |
|--|---------|---------------|------------|------------|--------------------|
| Thermal resistance from junction to case | TO-220  | $R_{th(j-c)}$ |            | 2.0        | $^\circ\text{C/W}$ |
|  | TO-263  |               |            | 2.0        |                    |
|  | TO-252  |               |            | 3.0        |                    |
|  | TO-220F |               |            | 4.0        |                    |

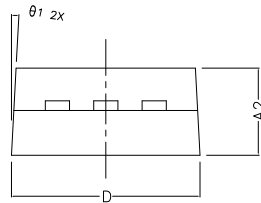
**ELECTRICAL CHARACTERISTICS (curves)**



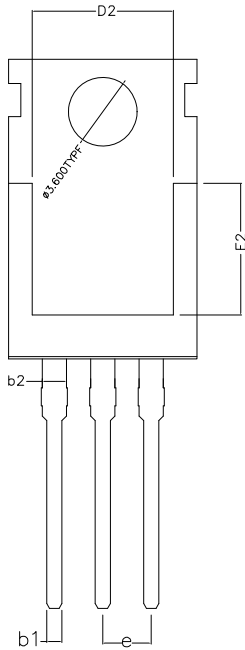
## TO-220 Package Outline Dimensions (Units: mm)



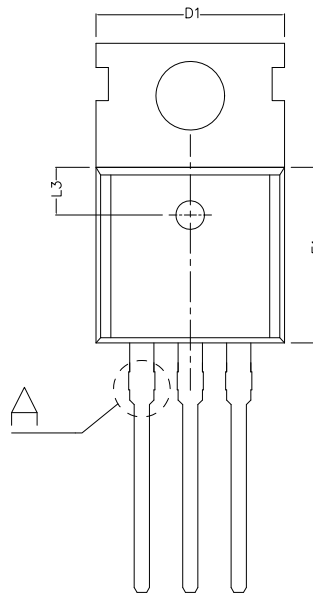
DETAIL A



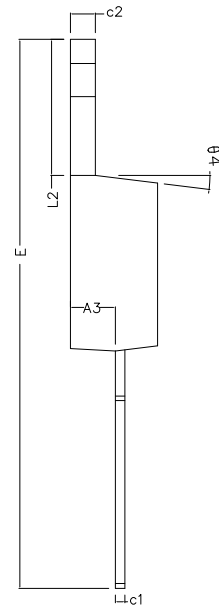
SIDE VIEW



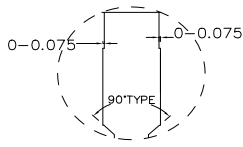
BOTTOM VIEW



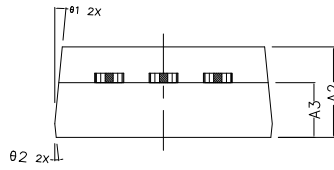
TOP VIEW



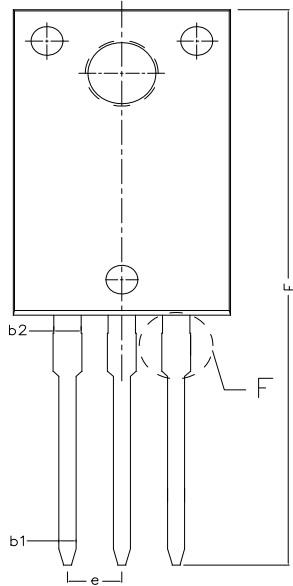
| COMMON DIMENSIONS<br>(UNITS OF MEASURE IS mm) |            |        |        |
|---|------------|--------|--------|
|   | MIN        | NORMAL | MAX    |
| A2  | 4.470      | 4.570  | 4.670  |
| A3  | 2.300      | 2.350  | 2.400  |
| b1  | 0.750      | 0.800  | 0.850  |
| b2  | 1.27 TYPE  |        |        |
| c1  | 0.450      | 0.500  | 0.550  |
| c2  | 1.250      | 1.300  | 1.380  |
| D   | 9.900      | 10.000 | 10.100 |
| D1  | 10.000TYPE |        |        |
| D2  | 8.000TYPE  |        |        |
| E   | 28.660     | 28.860 | 29.060 |
| E1  | 9.000      | 9.100  | 9.200  |
| E2  | 7.000TYPE  |        |        |
| e   | 2.540TYPE  |        |        |
| L2  | 6.350      | 6.500  | 6.650  |
| L3  | 2.50TYPE   |        |        |
| theta_1                                       | 3° TYPE    |        |        |
| theta_2                                       | 3° TYPE    |        |        |
| theta_3                                       | 7° TYPE    |        |        |
| theta_4                                       | 7° TYPE    |        |        |

**TO-220F Package Outline Dimensions(Units: mm)**


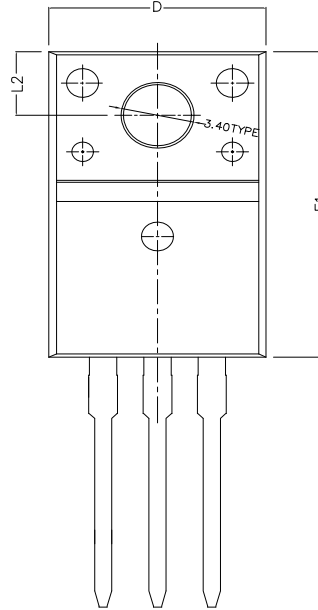
DETAIL F



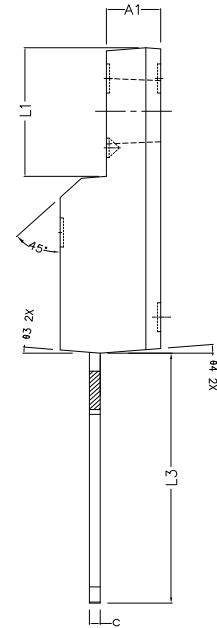
SIDE VIEW



BOTTOM VIEW



TOP VIEW



SIDE VIEW

| COMMON DIMENSIONS<br>(UNITS OF MEASURE IS mm) |          |        |        |
|---|----------|--------|--------|
|   | MIN      | NORMAL | MAX    |
| A1  | 2.440    | 2.540  | 2.640  |
| A2  | 4.600    | 4.700  | 4.800  |
| A3  | 2.730    | 2.830  | 2.930  |
| b1  | 0.750    | 0.800  | 0.850  |
| b2  | 1.230    | 1.280  | 1.330  |
| c   | 0.450    | 0.500  | 0.550  |
| D   | 10.060   | 10.160 | 10.260 |
| E   | 28.650   | 28.850 | 29.050 |
| E1  | 15.770   | 15.870 | 15.970 |
| e   | 2.54TYPE |        |        |
| L1  | 6.68REF  |        |        |
| L2  | 3.30REF  |        |        |
| L3  | 12.830   | 12.980 | 13.130 |
| theta 1                                       | 5° TYPE  |        |        |
| theta 2                                       | 5° TYPE  |        |        |
| theta 3                                       | 5° TYPE  |        |        |
| theta 4                                       | 5° TYPE  |        |        |

## TO-220/TO-220F 包装规范

标签、料管、内盒、大箱、海绵

标签：标签 80\*50mm

料管：534mm

内盒：577mm\*162mm\*53mm 土黄色

外箱：594mm\*292mm\*185mm 土黄色

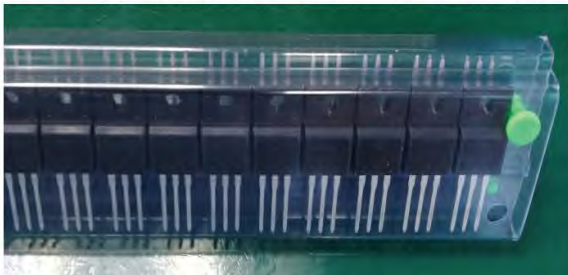
海绵：560mm\*152\*14mm

数量

50PCS 产品装 1 条料管、20 条料管装 1 内盒（每 10 条料管两端用橡皮筋扎紧）、5 内盒装 1 大箱（一大箱共 5000pcs）。

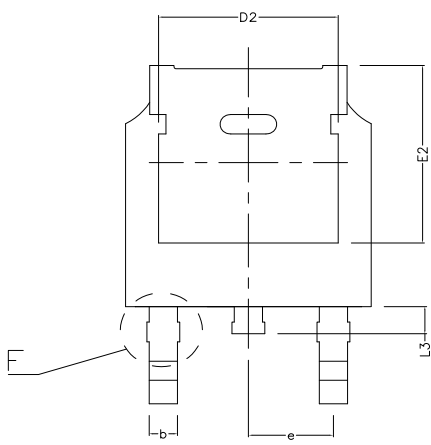
## TO-220/TO-220F 管装产品包装图解：

包装时使用透明管条，每管50只，管脚朝向大圆孔，管条之间叠放方式如下图，20管一内盒，以最内侧的管脚朝上为基准进行摆放

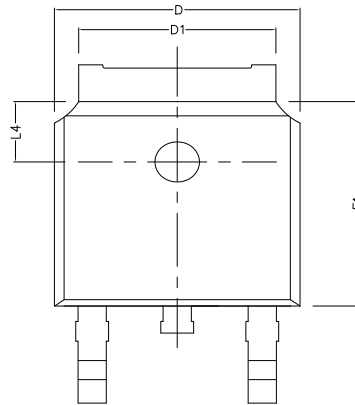




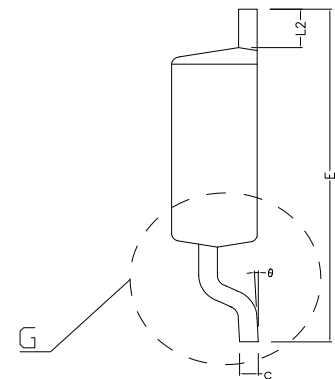
TO-252 Package Outline Dimensions (Units: mm)



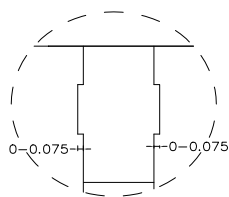
BOTTOM VIEW



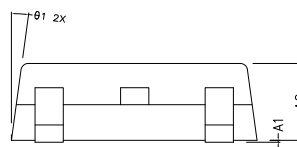
TOP VIEW



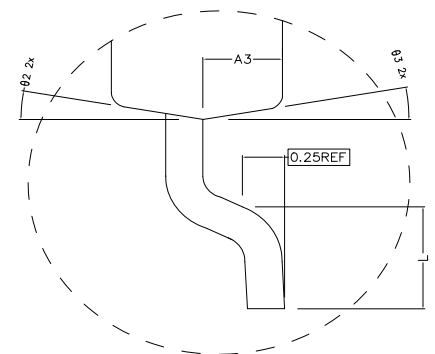
SIDE VIEW



DETAIL F



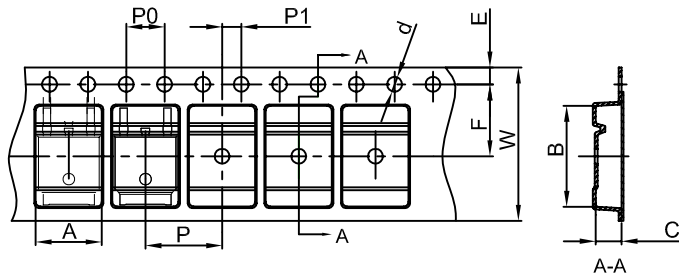
SIDE VIEW



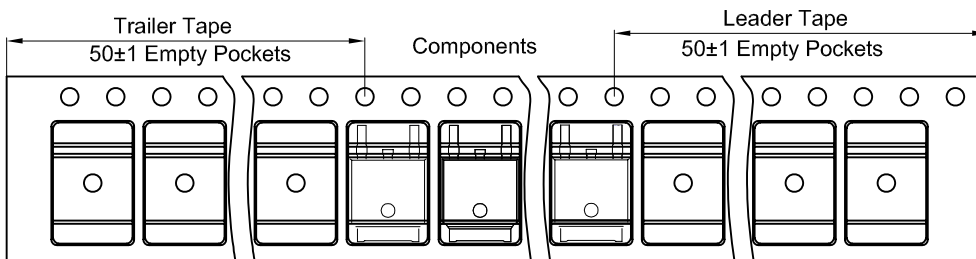
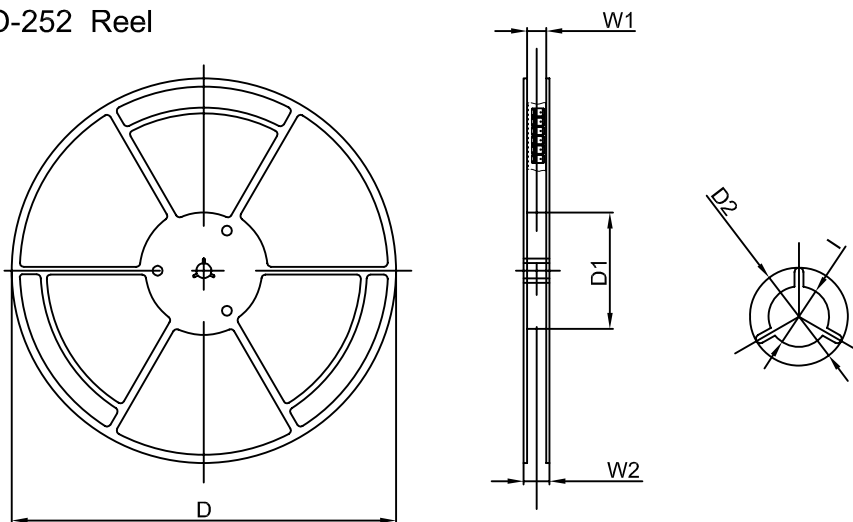
DETAIL G

COMMON DIMENSIONS  
(UNITS OF MEASURE IS mm)

|        | MIN       | NORMAL | MAX    |
|--------|-----------|--------|--------|
| A1     | 0.000     | 0.100  | 0.150  |
| A2     | 2.200     | 2.300  | 2.400  |
| A3     | 1.020     | 1.070  | 1.120  |
| b      | 0.710     | 0.760  | 0.810  |
| c      | 0.460     | 0.508  | 0.550  |
| D      | 6.500     | 6.600  | 6.700  |
| D1     | 5.330REF  |        |        |
| D2     | 4.830REF  |        |        |
| E      | 9.900     | 10.100 | 10.300 |
| E1     | 6.000     | 6.100  | 6.200  |
| E2     | 5.600REF  |        |        |
| e      | 2.286TYPE |        |        |
| L      | 1.400     | 1.550  | 1.700  |
| L2     | 1.10REF   |        |        |
| L3     | 0.80REF   |        |        |
| L4     | 1.80REF   |        |        |
| theta  | 0~8°      |        |        |
| theta1 | 7° TYPE   |        |        |
| theta2 | 10° TYPE  |        |        |
| theta3 | 10° TYPE  |        |        |

**TO-252 Embossed Carrier Tape**


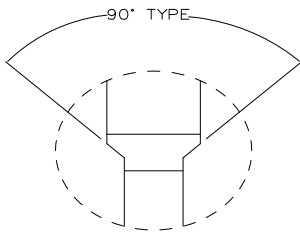
| Dimensions are in millimeter |        |        |        |        |        |        |        |        |        |           |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|
| Pkg type                     | A      | B      | C      | d      | E      | F      | P0     | P      | P1     | W         |
| TO-252                       | 6.90   | 10.50  | 2.70   | Ø1.55  | 1.75   | 7.50   | 4.00   | 8.00   | 2.00   | 16.00     |
| (Tolerance)                  | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +0.3/-0.1 |

**TO-252 Tape Leader and Trailer**

**TO-252 Reel**


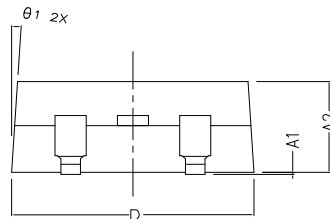
| Dimensions are in millimeter |        |        |        |       |       |        |
|------------------------------|--------|--------|--------|-------|-------|--------|
| Reel Option                  | D      | D1     | D2     | W1    | W2    | l      |
| 13" Dia                      | 330.00 | 100.00 | Ø21.00 | 16.40 | 21.00 | Ø13.00 |
| Tolerance                    | +/-2   | +/-1   | +/-1   | +/-1  | +/-1  | +/-1   |

| REEL     | Reel Size | Box      | Box Size(mm) | Carton    | Carton Size(mm) | G.W.(kg) |
|----------|-----------|----------|--------------|-----------|-----------------|----------|
| 2500 pcs | 13inch    | 5000 pcs | 357x340x50   | 50000 pcs | 540x370x360     |          |

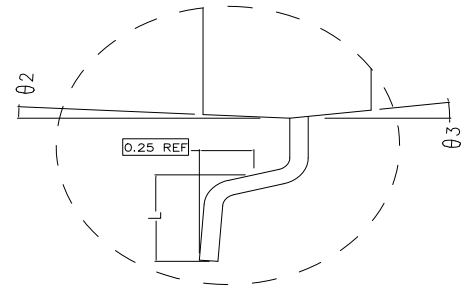
## TO-263 Package Outline Dimensions



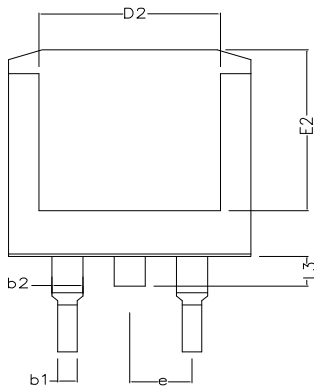
DETAIL F



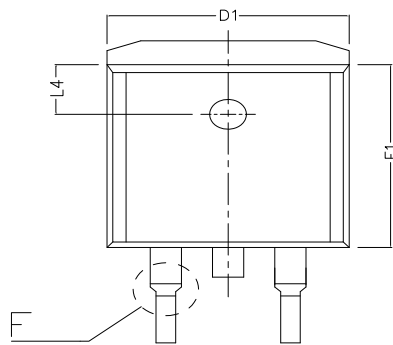
SIDE VIEW



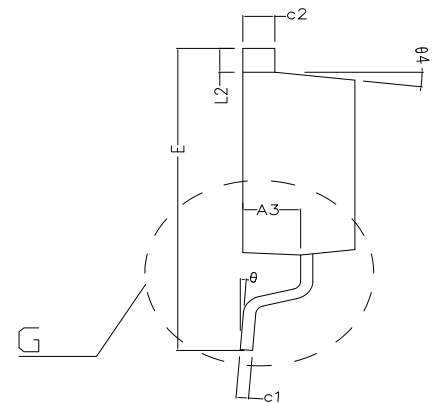
DETAIL G



BOTTOM VIEW



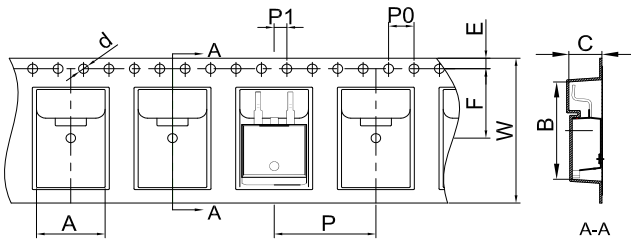
TOP VIEW



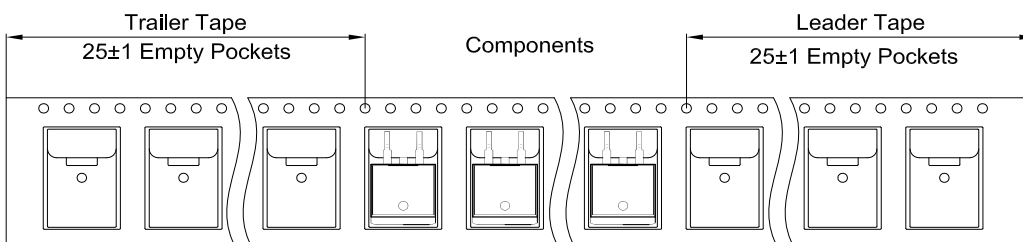
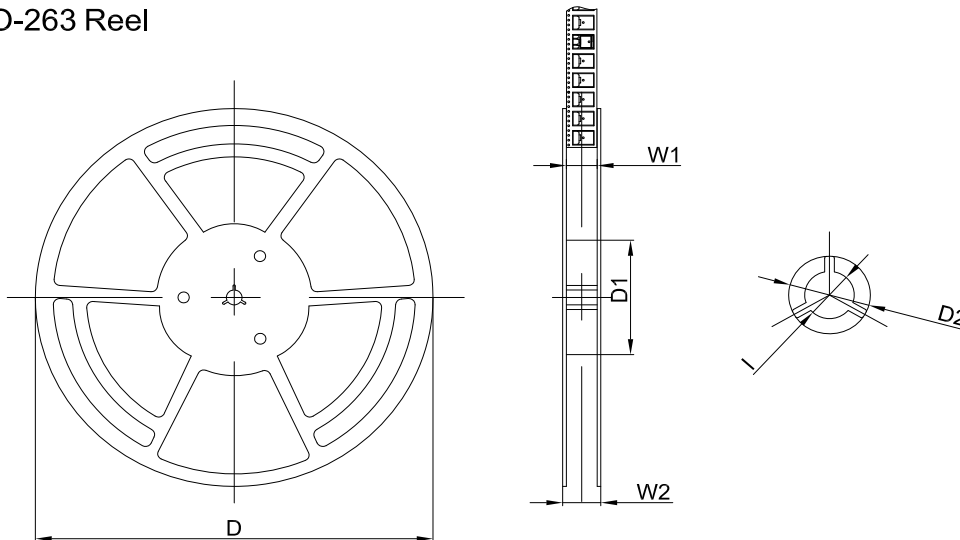
SIDE VIEW

COMMON DIMENSIONS  
(UNITS OF MEASURE IS mm)

|         | MIN       | NORMAL | MAX    |
|---------|-----------|--------|--------|
| A1      | 0.020     | 0.100  | 0.200  |
| A2      | 4.470     | 4.570  | 4.670  |
| A3      | 2.300     | 2.350  | 2.400  |
| b1      | 0.750     | 0.800  | 0.850  |
| b2      | 1.220     | 1.270  | 1.320  |
| c1      | 0.450     | 0.500  | 0.550  |
| c2      | 1.250     | 1.300  | 1.350  |
| D       | 9.900     | 10.000 | 10.100 |
| D1      | 9.880REF  |        |        |
| D2      | 7.400REF  |        |        |
| E       | 14.900    | 15.100 | 15.300 |
| E1      | 9.000     | 9.100  | 9.200  |
| E2      | 8.100REF  |        |        |
| e       | 2.540TYPE |        |        |
| L       | 2.100     | 2.300  | 2.500  |
| L2      | 1.100     | 1.200  | 1.300  |
| L3      | 1.300     | 1.500  | 1.700  |
| L4      | 2.50 TYPE |        |        |
| theta 1 | 3° TYPE   |        |        |
| theta 2 | 3° TYPE   |        |        |
| theta 3 | 7° TYPE   |        |        |
| theta 4 | 7° TYPE   |        |        |
| theta   | 0 ~ 8°    |        |        |

**TO-263 Embossed Carrier Tape**


| Dimensions are in millimeter |       |       |      |       |      |       |      |       |      |       |
|------------------------------|-------|-------|------|-------|------|-------|------|-------|------|-------|
| Pkg type                     | A     | B     | C    | d     | E    | F     | P0   | P     | P1   | W     |
| TO-263-2L                    | 10.80 | 16.13 | 5.21 | Ø1.55 | 1.75 | 11.50 | 4.00 | 16.00 | 2.00 | 24.00 |

**TO-263 Tape Leader and Trailer**

**TO-263 Reel**


| Dimensions are in millimeter |         |        |        |      |      |        |
|------------------------------|---------|--------|--------|------|------|--------|
| Reel Option                  | D       | D1     | D2     | W1   | W2   | I      |
| 13"Dia                       | Ø330.00 | 100.00 | Ø21.00 | 24.4 | 30.4 | Ø13.00 |

| REEL    | Reel Size | Box     | Box Size(mm) | Carton   | Carton Size(mm) | G.W.(kg) |
|---------|-----------|---------|--------------|----------|-----------------|----------|
| 800 pcs | 13 inch   | 800 pcs | 340x340x50   | 6400 pcs | 420*365*360     |          |

**Tube packing information**

| Package Type | Units/ Tube | Tubes/ Inner Box | Units/ Inner Box | Inner Boxes/ Carton Box | Units/ Carton Box |
|--------------|-------------|------------------|------------------|-------------------------|-------------------|
| TO-263       | 50          | 10               | 1000             | 5                       | 5000              |