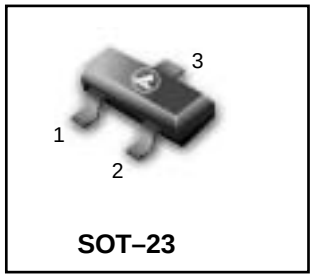
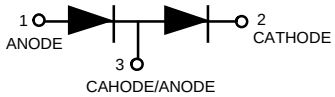
# LBAV99LT1G

# Dual Series Switching Diode

- Halogen free parts.




### DEVICE MARKING ORDERING INFORMATION

| Device | Marking | Shipping |
|---|---|---|
| LBAV99LT1G | A7 | 3000 Tape & Reel |
| LBAV99LT3G | A7 | 10000 Tape & Reel |

### MAXIMUM RATINGS (EACH DIODE)

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Reverse Voltage | $V_R$ | 75 | Vdc |
| Forward Current | $I_F$ | 215 | mAdc |
| Peak Forward Surge Current | $I_{FM(surge)}$ | 500 | mAdc |
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | 75 | V |
| Average Rectified Forward Current (1) (averaged over any 20 ms period) | $I_{F(AV)}$ | 715 | mA |
| Repetitive Peak Forward Current | $I_{FRM}$ | 450 | mA |
| Non–Repetitive Peak Forward Current | $I_{FSM}$ | | A |
| t = 1.0 μ s | | 4.0 | |
| t = 1.0 ms | | 1.0 | |
| t = 1.0 S | | 0.5 | |

### THERMAL CHARACTERISTICS

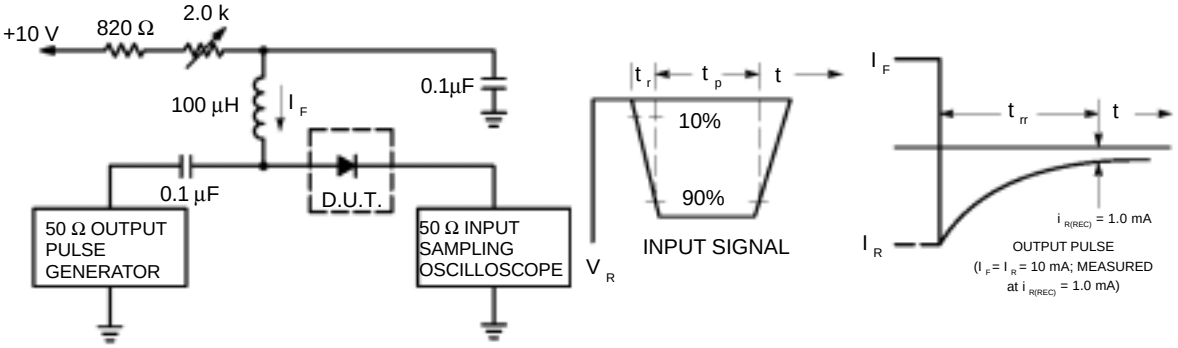
| Characteristic | Symbol | Max | Unit |
|---|---|---|---|
| Total Device Dissipation FR–5 Board, (1) $T_A$ = 25°C | $P_D$ | 225 | mW |
| Derate above 25°C | | 1.8 | mW/°C |
| Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 556 | °C/W |
| Total Device Dissipation Alumina Substrate, (2) $T_A$ = 25°C | $P_D$ | 300 | mW |
| Derate above 25°C | | 2.4 | mW/°C |
| Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 417 | °C/W |
| Junction and Storage Temperature | $T_J$, $T_{stg}$ | –65 to +150 | °C |

### ELECTRICAL CHARACTERISTICS ($T_A$ = 25°C unless otherwise noted) (EACH DIODE)

| Characteristic | Symbol | Min | Max | Unit |
|---|---|---|---|---|
| **OFF CHARACTERISTICS** | | | | |
| Reverse Breakdown Voltage($I_{(BR)}$ = 100 μA) | $V_{(BR)}$ | 70 | — | Vdc |
| Reverse Voltage Leakage Current ($V_R$ = 75 Vdc) | $I_R$ | — | 1.0 | μAdc |
| ($V_R$ = 25 Vdc, $T_J$ = 150°C) | | — | 30 | |
| ($V_R$ = 75 Vdc, $T_J$ = 150°C) | | — | 50 | |
| Diode Capacitance ($V_R$ = 0, f = 1.0 MHz) | $C_D$ | — | 1.5 | pF |
| Forward Voltage ($I_F$ = 1.0 mAdc) | $V_F$ | — | 715 | mVdc |
| ($I_F$ = 10 mAdc) | | — | 855 | |
| ($I_F$ = 50 mAdc) | | — | 1000 | |
| ($I_F$ = 150 mAdc) | | — | 1250 | |
| Reverse Recovery Time ($I_F$ = $I_R$ = 10 mAdc, $i_{R(REC)}$ = 1.0 mAdc, $R_L$ = 100Ω ) (Figure 1) | $t_{rr}$ | — | 4.0 | ns |
| Forward Recovery Voltage ($I_F$ = 10 mA, $t_r$ = 20 ns) | $V_{FR}$ | — | 1.75 | V |

1. FR–5 = 1.0 x 0.75 x 0.062 in.
2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

**LBAV99LT1G**




Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ($I_F$) of 10mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10mA.
3. $t_p \gg t_{rr}$

**Figure 1. Recovery Time Equivalent Test Circuit**

**CURVES APPLICABLE TO EACH DIODE**

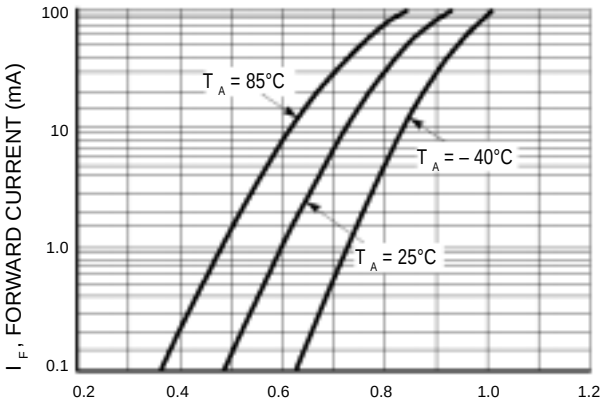



**Figure 2. Forward Voltage**

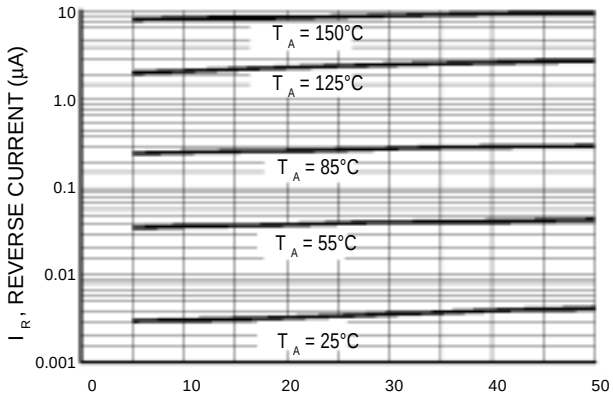



**Figure 3. Leakage Current**

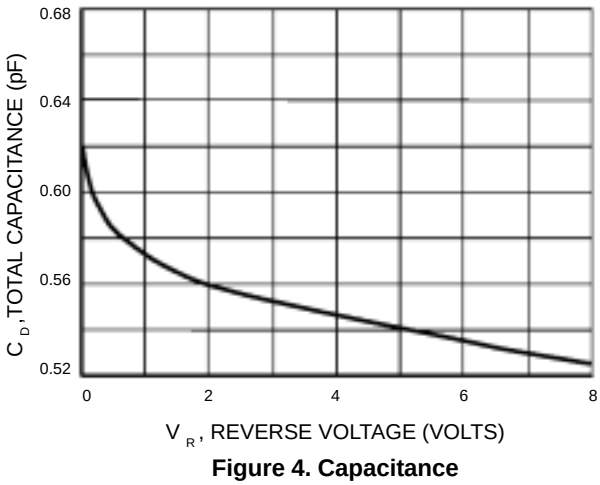
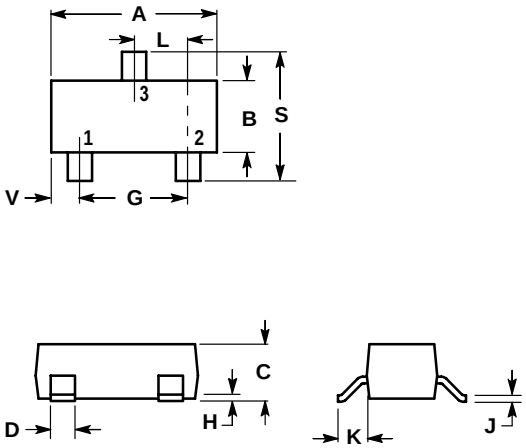



**Figure 4. Capacitance**

**LBAV99LT1G**

# SOT-23

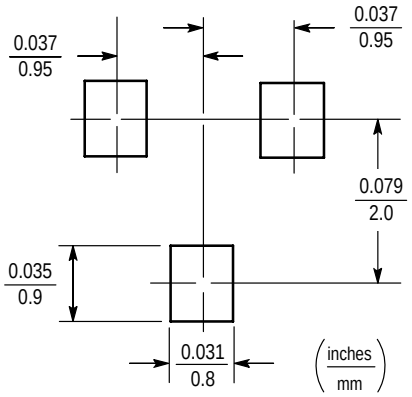



NOTES:

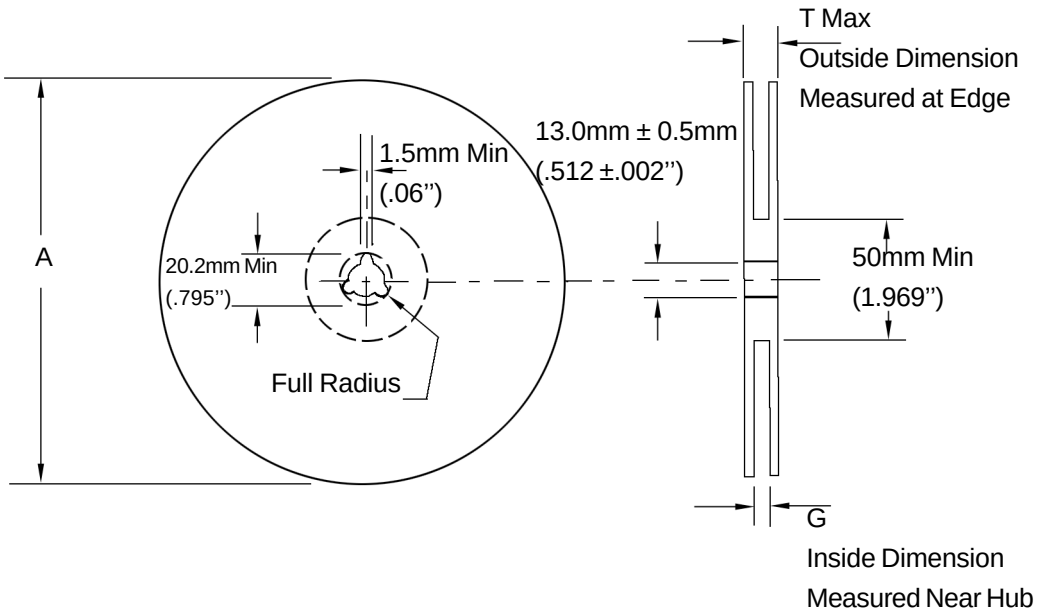
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

| DIM | INCHES | | MILLIMETERS | |
|---|---|---|---|---|
| | MIN | MAX | MIN | MAX |
| A | 0.1102 | 0.1197 | 2.80 | 3.04 |
| B | 0.0472 | 0.0551 | 1.20 | 1.40 |
| C | 0.0350 | 0.0440 | 0.89 | 1.11 |
| D | 0.0150 | 0.0200 | 0.37 | 0.50 |
| G | 0.0701 | 0.0807 | 1.78 | 2.04 |
| H | 0.0005 | 0.0040 | 0.013 | 0.100 |
| J | 0.0034 | 0.0070 | 0.085 | 0.177 |
| K | 0.0140 | 0.0285 | 0.35 | 0.69 |
| L | 0.0350 | 0.0401 | 0.89 | 1.02 |
| S | 0.0830 | 0.1039 | 2.10 | 2.64 |
| V | 0.0177 | 0.0236 | 0.45 | 0.60 |

PIN 1. ANODE
2. CAHODE
3. CAHODE/ANODE



# EMBOSSED TAPE AND REEL DATA
# FOR DISCRETES




| Size | A Max | G | T Max |
|---|---|---|---|
| 8 mm | 330mm (12.992") | 8.4mm+1.5mm, -0.0 (.33"+.059", -0.00) | 14.4mm (.56") |

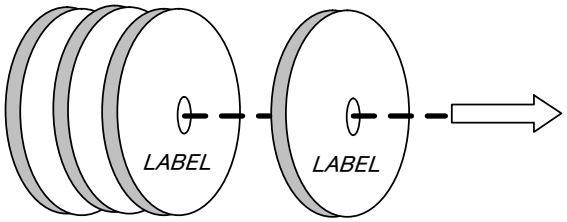
Reel Dimensions

Metric Dimensions Govern — English are in parentheses for reference only

Storage Conditions

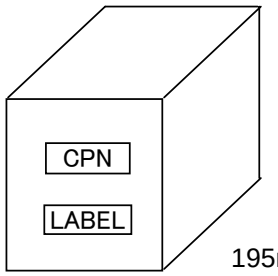
Temperature: 5 to 40 Deg.C (20 to 30 Deg. C is preferred)
Humidity: 30 to 80 RH (40 to 60 is preferred )
Recommended Period: One year after manufacturing
(This recommended period is for the soldering condition only. The characteristics and reliabilities of the products are not restricted to this limitation)

# Shipment Specification




10 Reel

3000PCS/Reel
8000PCS/Reel (SOT-723,SOD-723)




Dim(Unit:mm)

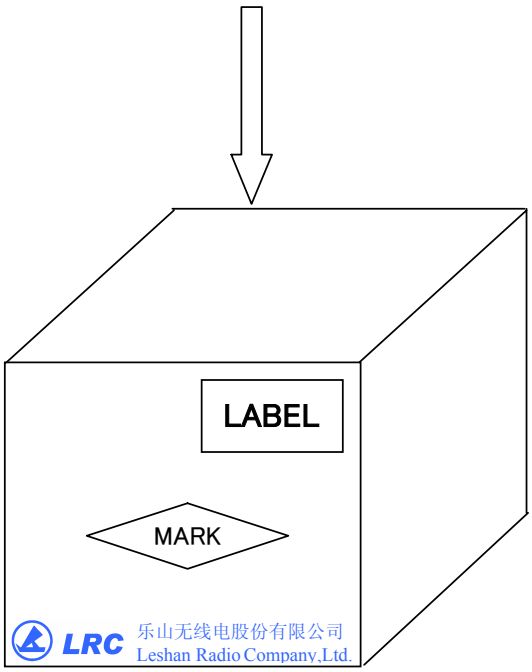
195mm*195mm*150mm

10Reel/Inner Box

30KPCS/Inner Box
80KPCS/Inner Box (SOT-723,SOD-723)

Dim(Unit:mm)

460mm*400mm*420mm




12 Inner Box/Carton

360KPCS/Carton
960KPCS/Carton (SOT-723,SOD-723)