| ELECTRICAL CHARACTERISTICS ($T_A$ = 25 °C unless otherwise noted) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| PARAMETER | TEST CONDITIONS | | SYMBOL | AR1PD | AR1PG | AR1PJ | AR1PK | AR1PM | UNIT |
| Maximum instantaneous forward voltage | $I_F$ = 1.0 A | $T_A$ = 25 °C | $V_F$ (1) | 1.25 | | | 1.6 | | V |
| | | $T_A$ = 125 °C | | 1.15 | | | 1.4 | | |
| Maximum reverse current | Rated $V_R$ | $T_A$ = 25 °C | $I_R$ (2) | 1.0 | | | | | μA |
| | | $T_A$ = 125 °C | | 100 | | | | | |
| Maximum reverse recovery time | $I_F$ = 0.5 A, $I_R$ = 1.0 A, $I_{rr}$ = 0.25 A | | $t_{rr}$ | 140 | | | 120 | | ns |
| Typical junction capacitance | 4.0 V, 1 MHz | | $C_J$ | 12.5 | | | 8.5 | | pF |

**Notes**

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width ≤ 40 ms

| THERMAL CHARACTERISTICS ($T_A$ = 25 °c unless otherwise noted) | | | | | | | |
|---|---|---|---|---|---|---|---|
| PARAMETER | SYMBOL | AR1PD | AR1PG | AR1PJ | AR1PK | AR1PM | UNIT |
| Typical thermal resistance | $R_{\theta JA}$ (1) | 132 | | | | | °C/W |
| | $R_{\theta JM}$ (1) | 15 | | | | | |

**Note**

(1) Free air, mounted on recommended copper pad area. Thermal resistance $R_{\theta JA}$ - junction to ambient, $R_{\theta JM}$ - junction to mount at the terminal cathode band

| ORDERING INFORMATION (Example) | | | | |
|---|---|---|---|---|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| AR1PJ-M3/84A | 0.024 | 84A | 3000 | 7" diameter plastic tape and reel |
| AR1PJ-M3/85A | 0.024 | 85A | 10 000 | 13" diameter plastic tape and reel |
| AR1PJHM3/84A (1) | 0.024 | 84A | 3000 | 7" diameter plastic tape and reel |
| AR1PJHM3/85A (1) | 0.024 | 85A | 10 000 | 13" diameter plastic tape and reel |

**Note**

(1) Automotive grade

## RATINGS AND CHARACTERISTICS CURVES ($T_A$ = 25 °C unless otherwise noted)

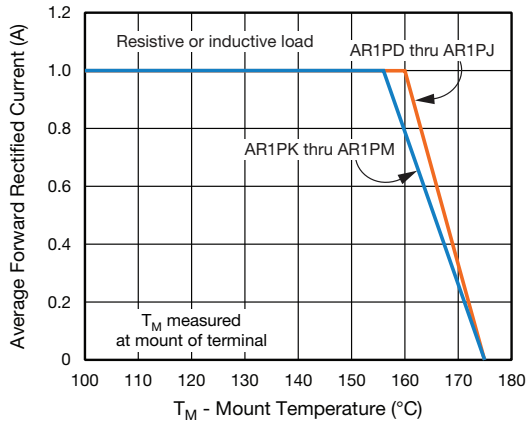



Fig. 1 - Maximum Forward Current Derating Curve

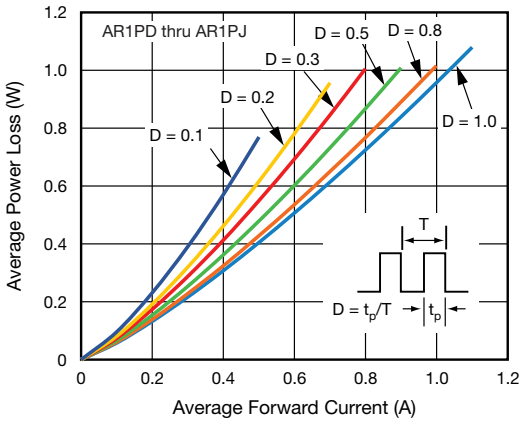



Fig. 2 - Forward Power Loss Characteristics

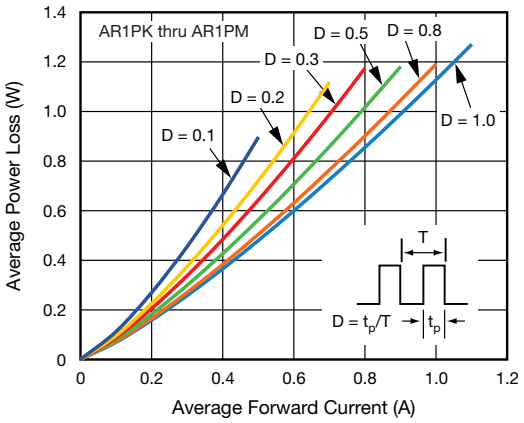



Fig. 3 - Forward Power Loss Characteristics

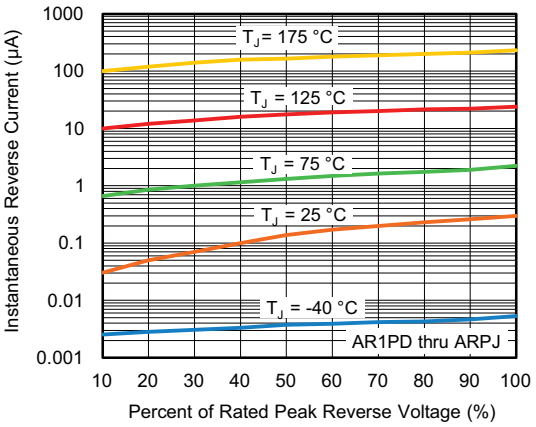



Fig. 6 - Typical Reverse Characteristics

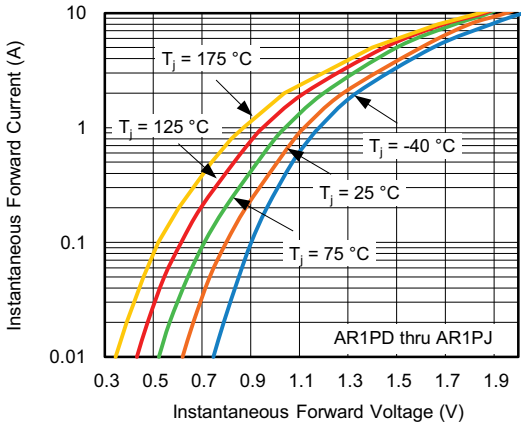



Fig. 4 - Typical Instantaneous Forward Characteristics

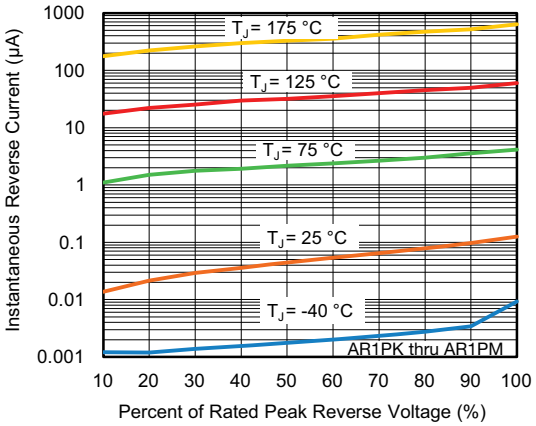



Fig. 7 - Typical Reverse Characteristics

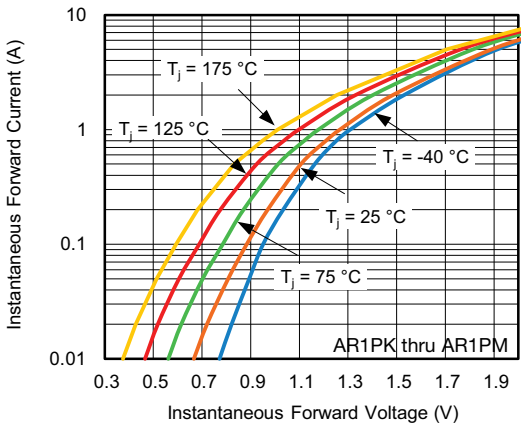



Fig. 5 - Typical Instantaneous Forward Characteristics

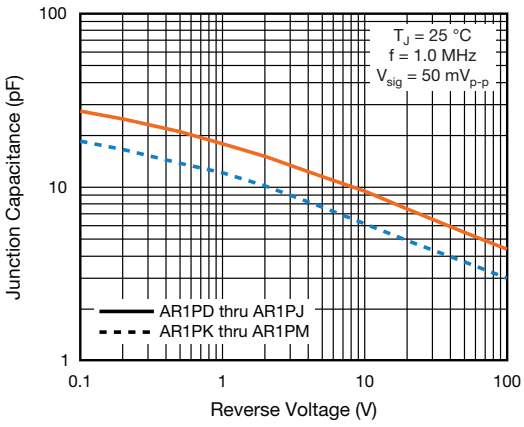



Fig. 8 - Typical Junction Capacitance

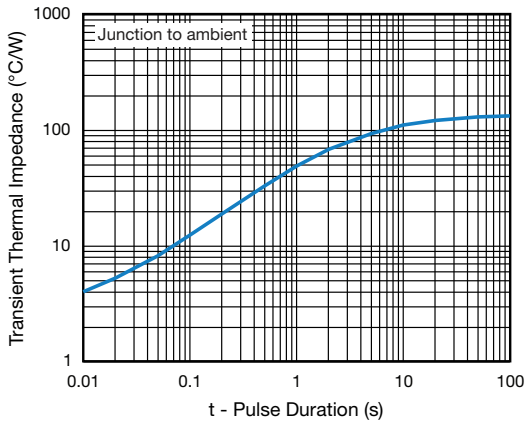
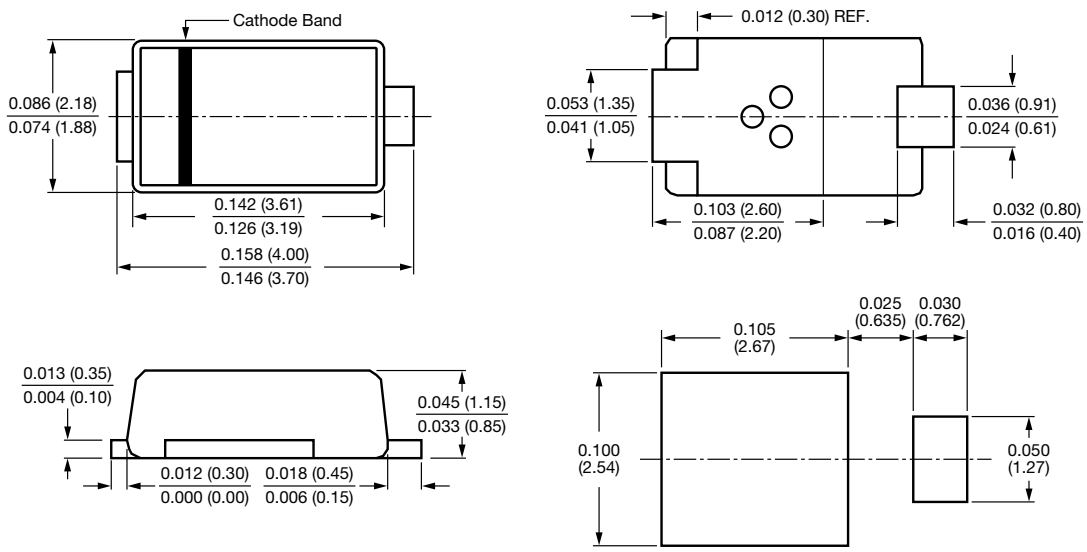



Fig. 9 - Typical Transient Thermal Impedance

## **PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

**SMP (DO-220AA)**



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