



FEATURES

- * Low forward voltage drop
- * High current capability
- * High reliability
- * High surge current capability

MECHANICAL DATA

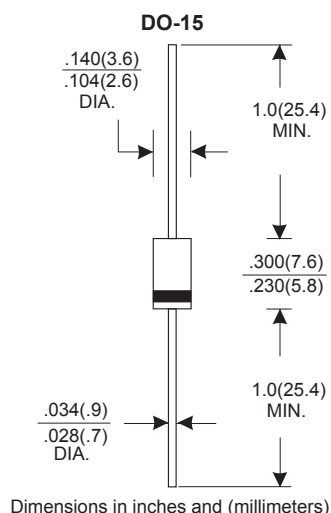
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 0.40 grams
- * Both normal and Pb free product are available:
- * Normal: 80~95% Sn, 5~20% Pb
- * Pb free: 99 Sn above can meet Rohs environment substance

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

2.5 Amperes



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

		FR 251	FR 252	FR 253	FR 254	FR 255	FR 256	FR 257	UNITS
Maximum recurrent peak reverse voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum average forw ard rectified current 9.5mm lead length, @T _A =75°C	I _{F(AV)}	2.5							A
Peak forw ard surge current 8.3ms single half-sine-wave superimposed on rated load @T _J =125°C	I _{FSM}	100.0							A
Maximum instantaneous forw ard voltage @ 2.5 A	V _F	1.3							V
Maximum reverse current @T _A =25°C at rated DC blocking voltage @T _A =100°C	I _R	5.0 100.0							μ A
Maximum reverse recovery time (Note1)	t _{rr}	150				250	500		ns
Typical junction capacitance (Note2)	C _J	22							pF
Typical thermal resistance (Note3)	R _{θJA}	35							°C/W
Operating junction temperature range	T _J	- 55---- +125							°C
Storage temperature range	T _{STG}	- 55---- + 150							°C

NOTE:1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.

FIG.1 – TYPICAL FORWARD DERATING CURVE

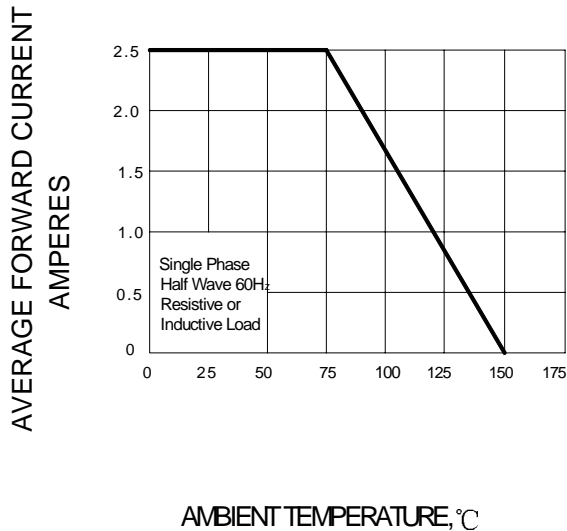


FIG.2– FORWARD SURGE CURRENT

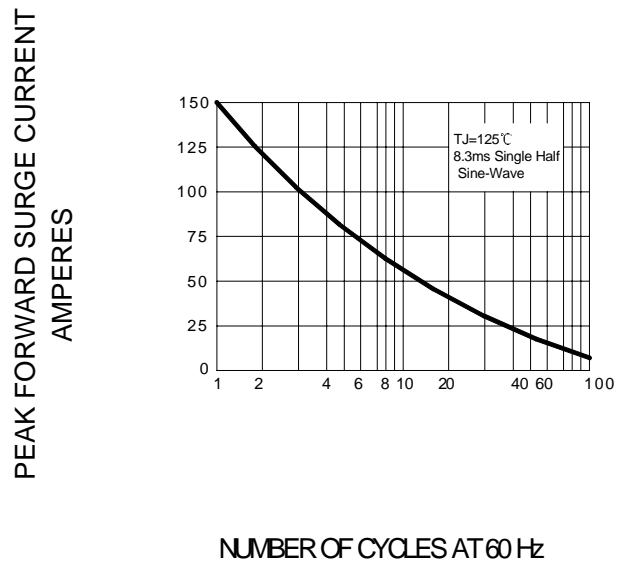


FIG.3–TYPICAL JUNCTION CAPACITANCE

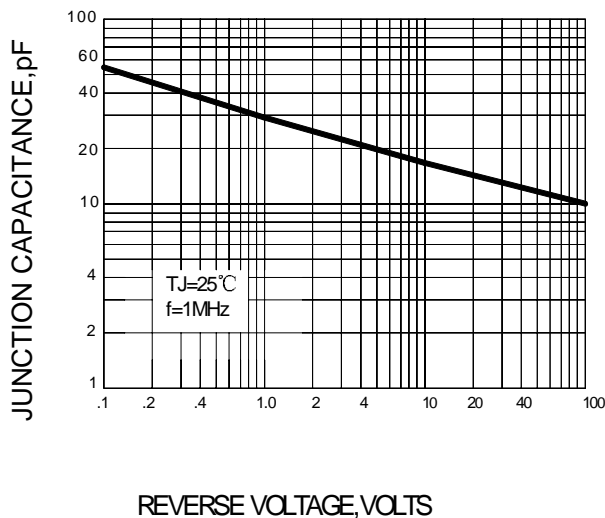


FIG.4 –TYPICAL FORWARD CHARACTERISTIC

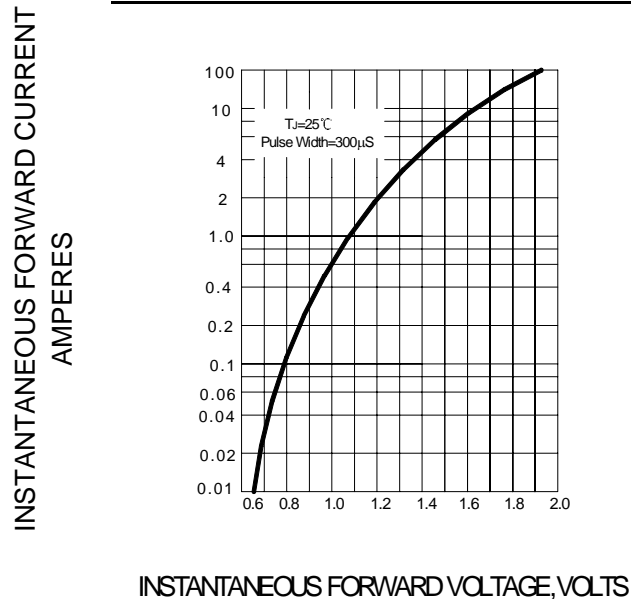
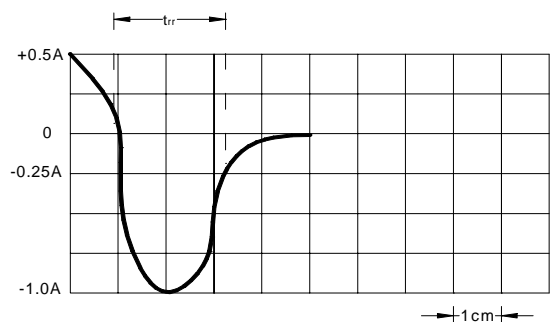
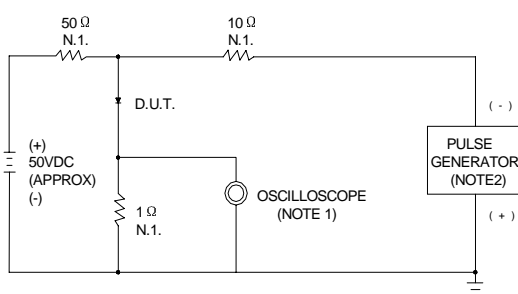


FIG.5 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES:1.RISE TIME=7ns MAX. INPUT IMPEDANCE=1MΩ,22pF

2.RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω

SET TIME BASE FOR 50/100 ns /cm