SAMYANG ELECTRONICS

FR101---FR107

FAST RECOVERY RECTIFIER

VOLTAGE RANGE: 50 --- 1000 V
CURRENT: 1.0 A

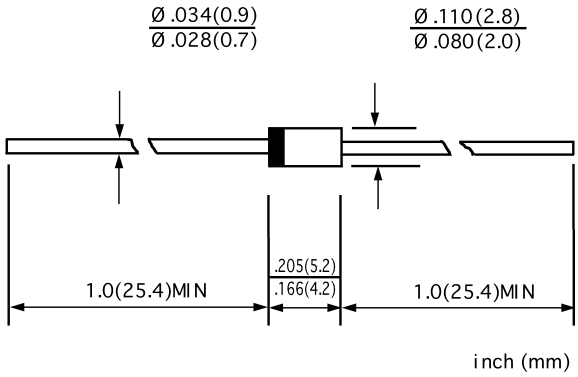
FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon,Alcohol,Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

MECHANICAL DATA

- ◇ Case:JEDEC DO-41,molded plastic
- ◇ Terminals: Axial lead ,solderable per MIL- STD-202,Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.012ounces,0.34 grams
- ◇ Mounting position: Any

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MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

Single phase,half wave,60 Hz,resistive or inductive load. For capacitive load,derate by 20%.

		FR 101	FR 102	FR 103	FR 104	FR 105	FR 106	FR 107	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℃	$I_{F(AV)}$	1.0							A
Peak forw ard surge current 8.3ms single half-sine-w ave superimposed on rated load @T_J=125℃	I_{FSM}	30.0							A
Maximum instantaneous forw ard voltage @ 1.0 A	V_F	1.3							V
Maximum reverse current @T_A=25℃	I_R	5.0							μA
at rated DC blocking voltage @T_A=100℃		100.0							
Maximum reverse recovery time (Note1)	t_{rr}	150				250	500		ns
Typical junction capacitance (Note2)	C_J	12							pF
Typical thermal resistance (Note3)	R_{JA}	55							℃
Operating junction temperature range	T_J	- 55---- +150							℃
Storage temperature range	T_{STG}	- 55---- + 150							℃

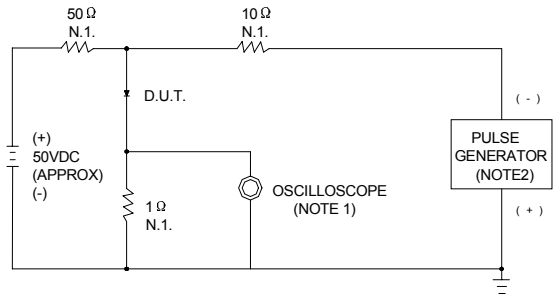
NOTE:1. Measured with I_F=0.5A, I_R=1A, I_{rr}=0.25A.

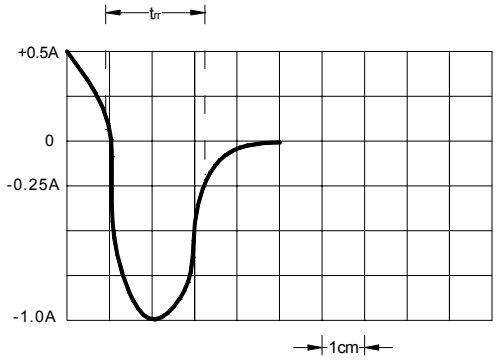
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.

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FIG.1 – 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=5OΩ

SET TIME BASE FOR 50/100 ns /cm

FIG.2 –TYPICAL FORWARD CHARACTERISTIC

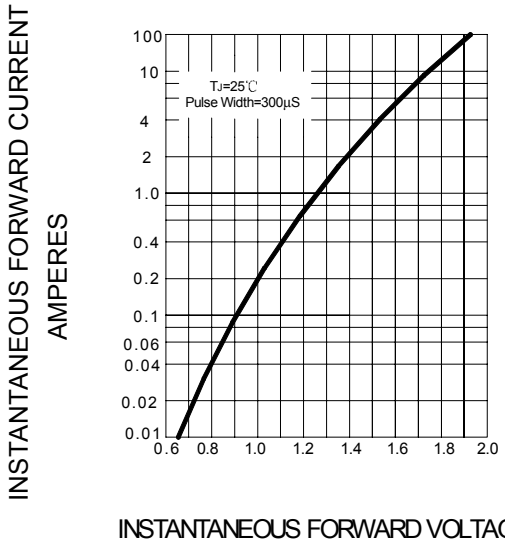


FIG.3 – FORWARD DERATING CURVE

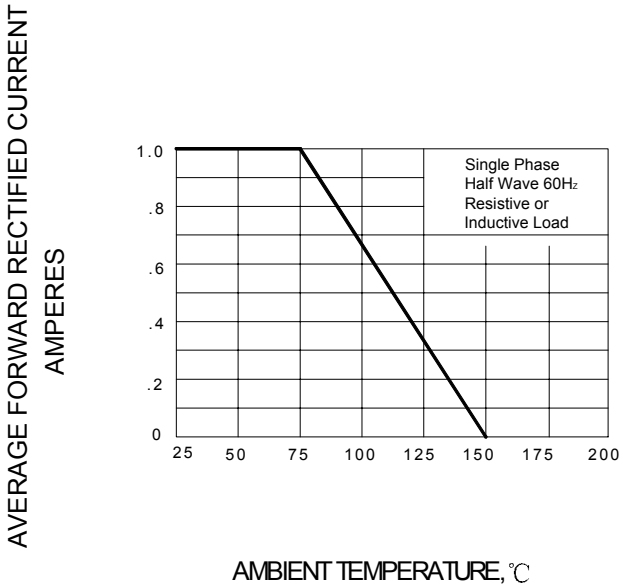


FIG.4–TYPICAL JUNCTION CAPACITANCE

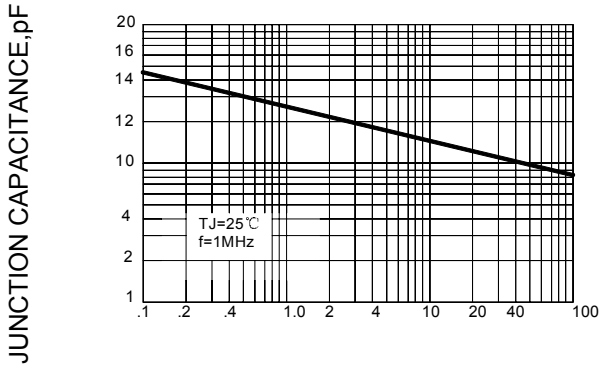


FIG.5–PEAK FORWARD SURGE CURRENT

