1A, 50V - 1000V Surface Mount Rectifiers

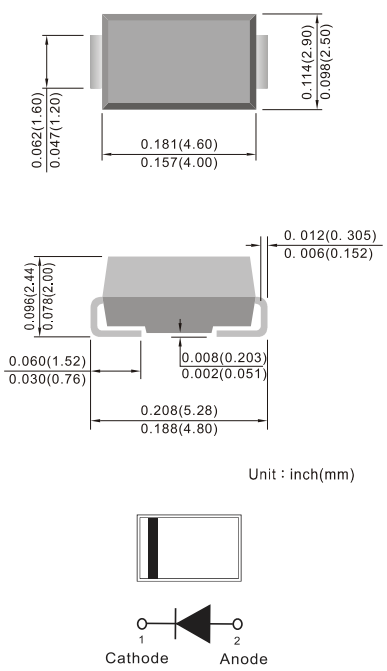
FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Low forward voltage drop
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

MECHANICAL DATA

- **Case:** DO-214AC (SMA)
  Molding compound, UL flammability classification rating 94V-0
  Moisture sensitivity level: level 1, per J-STD-020
- **Terminal:** Matte tin plated leads, solderable per JESD22-B102
  Meet JESD 201 class 2 whisker test
- **Polarity:** Indicated by cathode band
- **Weight:** 0.06 g (approximately)

DO-214AC (SMA)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	GS1A	GS1B	GS1D	GS1G	GS1J	GS1K	GS1M	UNIT
Maximum repetitive 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 forward rectified current	$I_{F(AV)}$	1							A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Maximum instantaneous forward voltage (Note 1) @ 1 A	V_F	1.1							V
Maximum reverse current @ rated V_R T_J=25°C T_J=125°C	I_R	1 50							μA
Typical reverse recovery time (Note 2)	t_{rr}	1.5							μs
Typical junction capacitance (Note 3)	C_J	12							pF
Non-repetitive peak reverse avalanche energy at 25°C, I_{AS}=1A, L=10mH	E_{RSM}	5							mJ
Typical thermal resistance	$R_{\theta JL}$ $R_{\theta JA}$	27 75					30 85		°C/W
Operating junction temperature range	T_J	- 55 to +175							°C
Storage temperature range	T_{STG}	- 55 to +175							°C

Note 1: Pulse test with PW=300μs, 1% duty cycle

Note 2: Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

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

FIG.1 FORWARD CURRENT DERATING CURVE

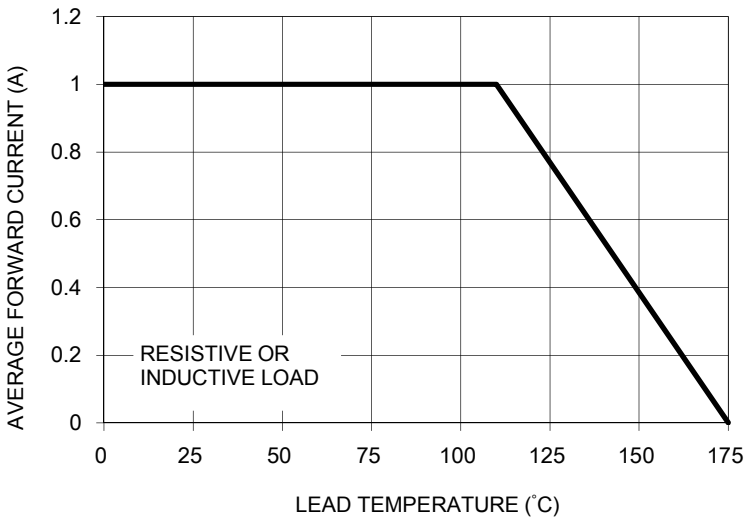


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

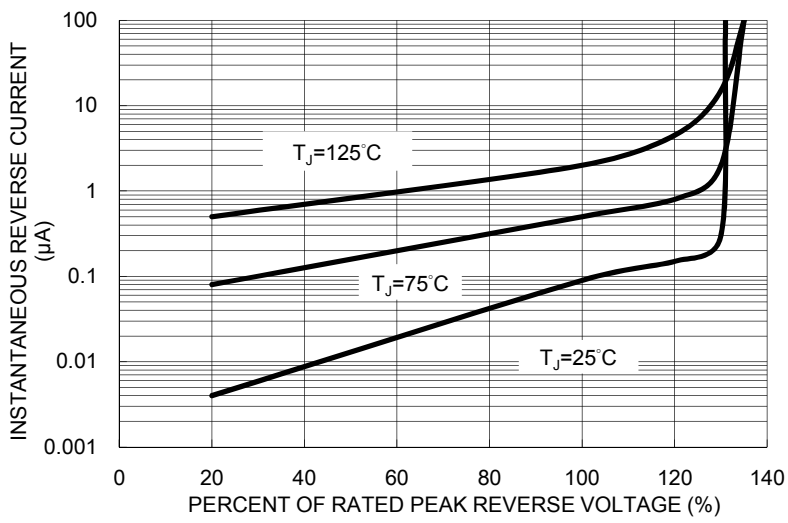


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

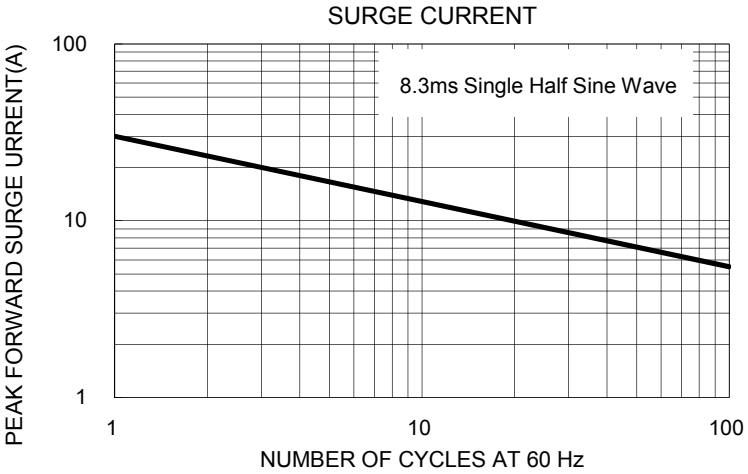


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

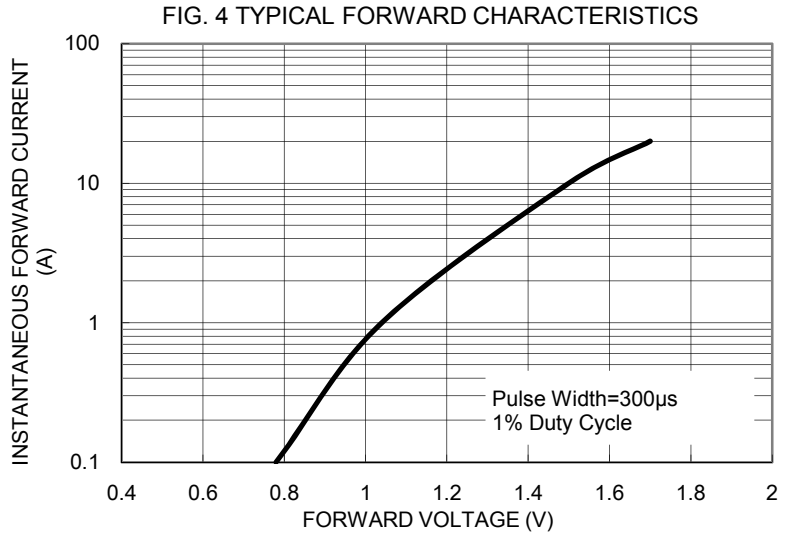


FIG. 5 TYPICAL JUNCTION CAPACITANCE

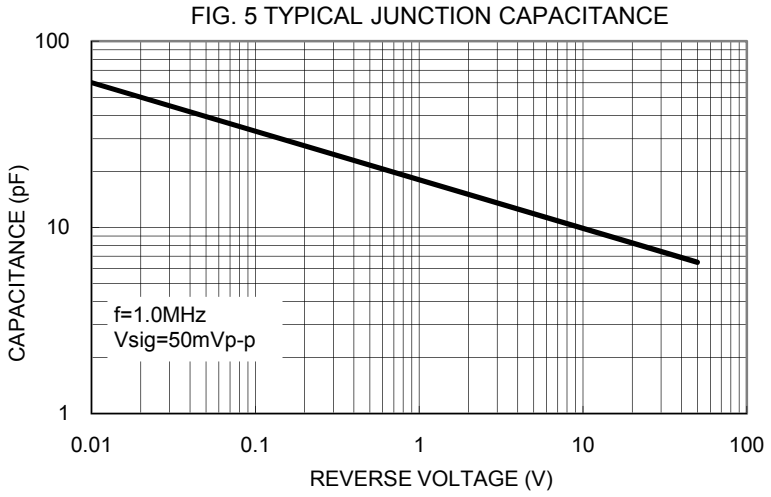


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM