



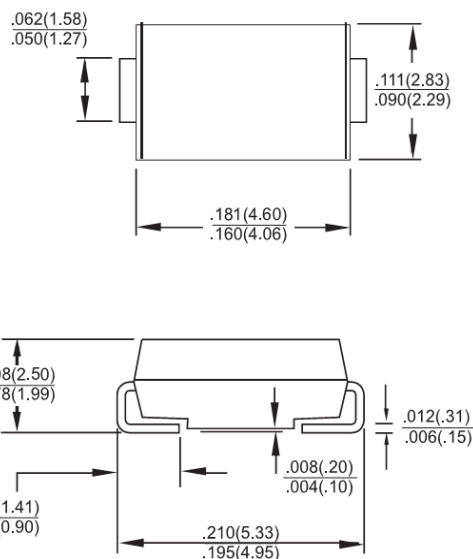
US1A - US1M

1.0AMP. High Efficient Surface Mount Rectifiers

SMA/DO-214AC

Features

- ◇ Glass passivated chip junction
- ◇ For surface mounted application
- ◇ Low profile package
- ◇ Built-in strain relief
- ◇ Ideal for automated placement
- ◇ Easy pick and place
- ◇ Ultrafast recovery time for high efficiency
- ◇ Low forward voltage, low power loss
- ◇ High temperature soldering guaranteed:
260°C/10 seconds on terminals
- ◇ Plastic material used carries Underwriters
Laboratory Classification 94V-0
- ◇ Green compound with suffix "G" on packing
code & prefix "G" on datecode



Mechanical Data

- ◇ Case: Molded plastic
- ◇ Terminals: Solder plated, solderable per
MIL-STD-750, Method 2026
- ◇ Polarity: Indicated by cathode band
- ◇ Weight: 0.064 grams

Dimensions in inches and (millimeters)



Marking Diagram

- US1X = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	US1A	US1B	US1D	US1G	US1J	US1K	US1M	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 (JEDEC method)	I _{FSM}	30							A
Maximum Instantaneous Forward Voltage (Note 1) @ 1 A	V _F	1.0				1.7			V
Maximum Reverse Current @ Rated VR T _A =25 °C T _A =125 °C	I _R	5 150							uA
Maximum Reverse Recovery Time (Note 2)	T _{rr}	50				75			nS
Typical Junction Capacitance (Note 3)	C _j	15				10			pF
Typical Thermal Resistance	R _{θJA} R _{θJL}	75 27							°C/W
Operating Temperature Range	T _J	- 55 to + 150							°C
Storage Temperature Range	T _{STG}	- 55 to + 150							°C

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: IF=0.5A, IR=1.0A, IRR=0.25A

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

RATINGS AND CHARACTERISTIC CURVES (US1A THRU US1M)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

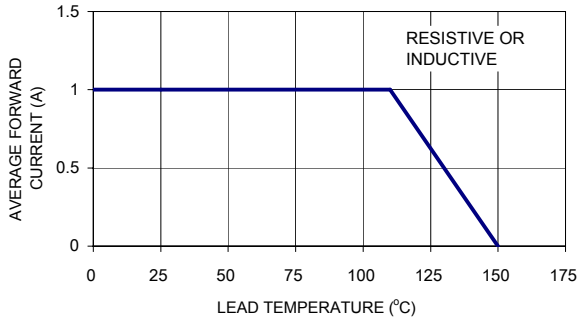


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

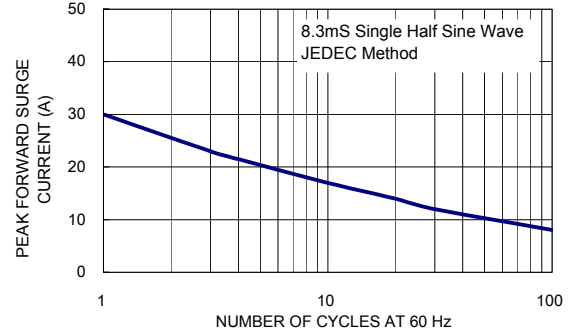


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

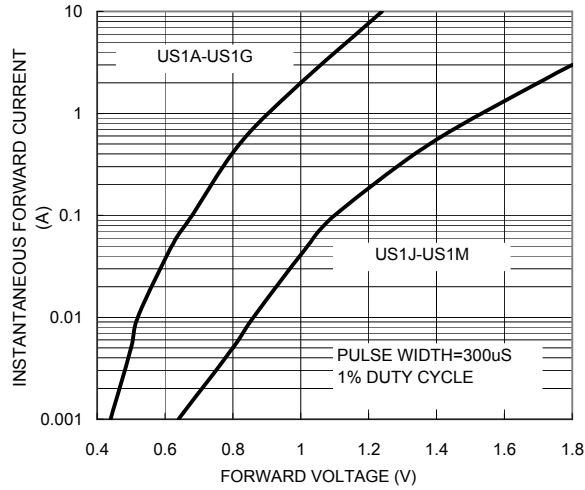


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

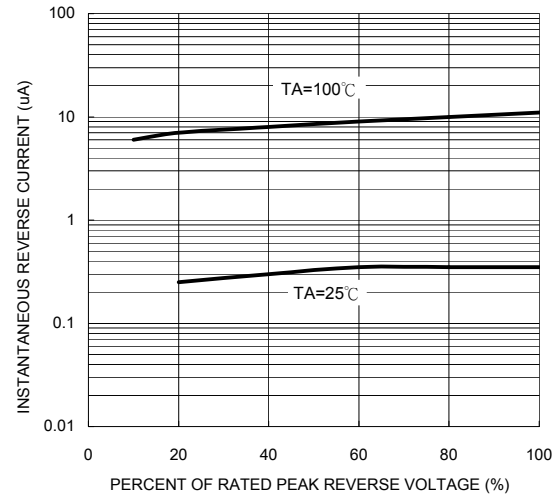


FIG. 5 TYPICAL JUNCTION CAPACITANCE

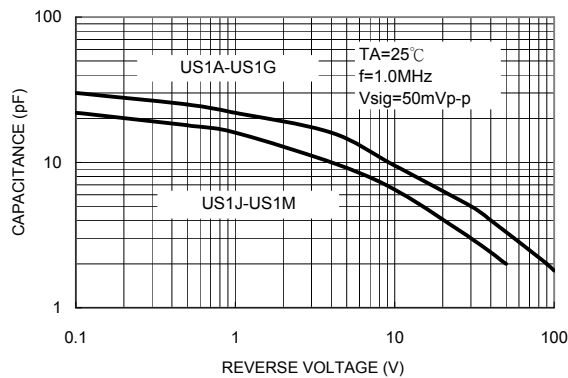


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

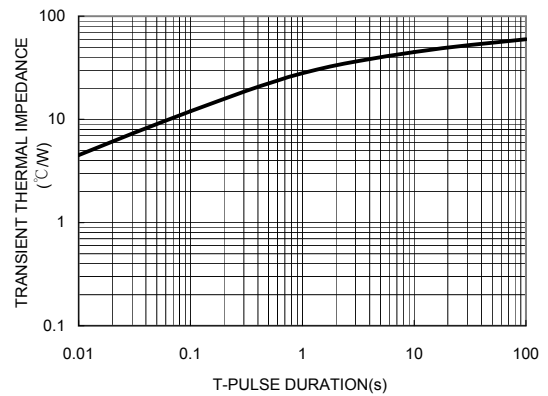


FIG.7- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

