

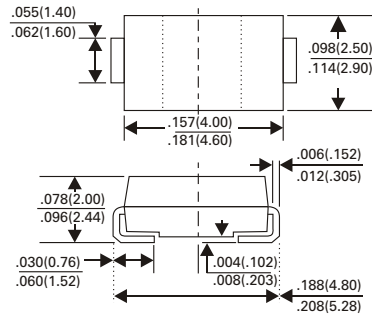
# US1A thru US1M

## SURFACE MOUNT REVERSE VOLTAGE 50 TO 1000 VOLTS

### ULTRA FAST RECTIFIERS FORWARD CURRENT - 1.0 AMPERES



SMA/DO-214AC



Dimensions in inches and (millimeters)

### FEATURES

- Glass passivated chip
- Ultra fast switching for high efficiency
- For surface mount applications
- Low forward voltage drop and high current capability
- Low reverse leakage current
- Plastic material UL flammability classification 94V-0
- High temperature soldering : 260°C/10seconds at terminals
- Pb free product are available : 99% Sn above can meet RoHS Environment substance directive request

### MECHANICAL DATA

- Case : JEDEC DO-214AC molded plastic
- Case : Molded plastic
- Polarity : Indicated by cathode band
- Weight : 0.002 ounce, 0.064grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOL	US1A	US1B	US1D	US1G	US1J	US1K	US1M	UNITS
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current @ $T_L = 75^\circ\text{C}$	$I_{(AV)}$	1.0							Amps
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	30							Amps
Maximum Forward Voltage at 1.0A DC	$V_F$	1.0		1.3	1.5	1.7		Volts	
Maximum DC Reverse Current @ $T_J = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_J = 100^\circ\text{C}$	$I_R$	10 100							$\mu\text{A}$
Maximum Reverse Recovery Time (NOTE 1)	$C_J$	20					10		pF
Typical Junction Capacitance (NOTE 2)	$T_{RR}$	50					75		nS
Typical Thermal Resistance (NOTE 3)	$R_{\theta JC}$	30							$^\circ\text{C} / \text{W}$
Operating Temperature Rang	$T_J$	-55 to +150							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150							$^\circ\text{C}$

NOTES :

1. Measured at 1 MHz and applied reverse Voltage of 4.0VDC
2. Rverse Recovery Test Condibons  $I_F = 5A$ ,  $I_R = 1A$ ,  $I_{RR} = 25A$
3. Thermal Resistance from Junction ambient and from Junction to lead 0.375" (9.5mm) P.C.B mounted

# US1A thru US1M

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### RATINGS AND CHARACTERISTIC CURVES US1A THRU US1M

Fig. 1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

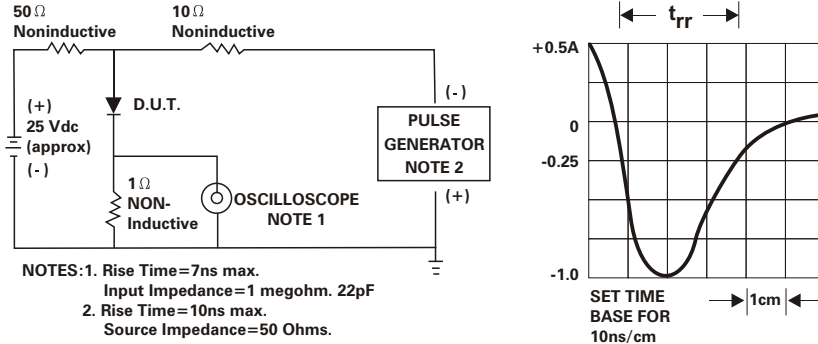


Fig. 2 - FORWARD CHARACTERISTICS

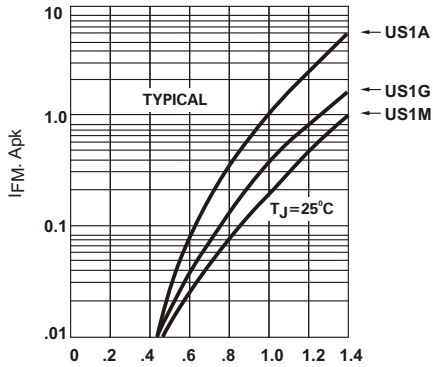


Fig. 3 - FORWARD CURRENT DERATING CURVE

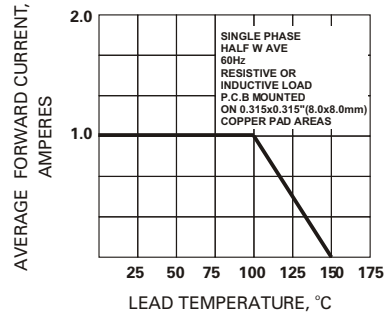


Fig. 4 - TYPICAL JUNCTION CAPACITANCE

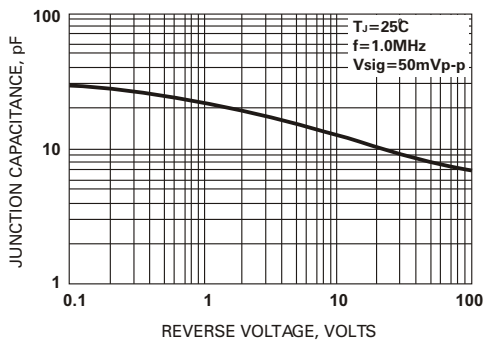


Fig. 5 - PEAK FORWARD SURGE CURRENT

