

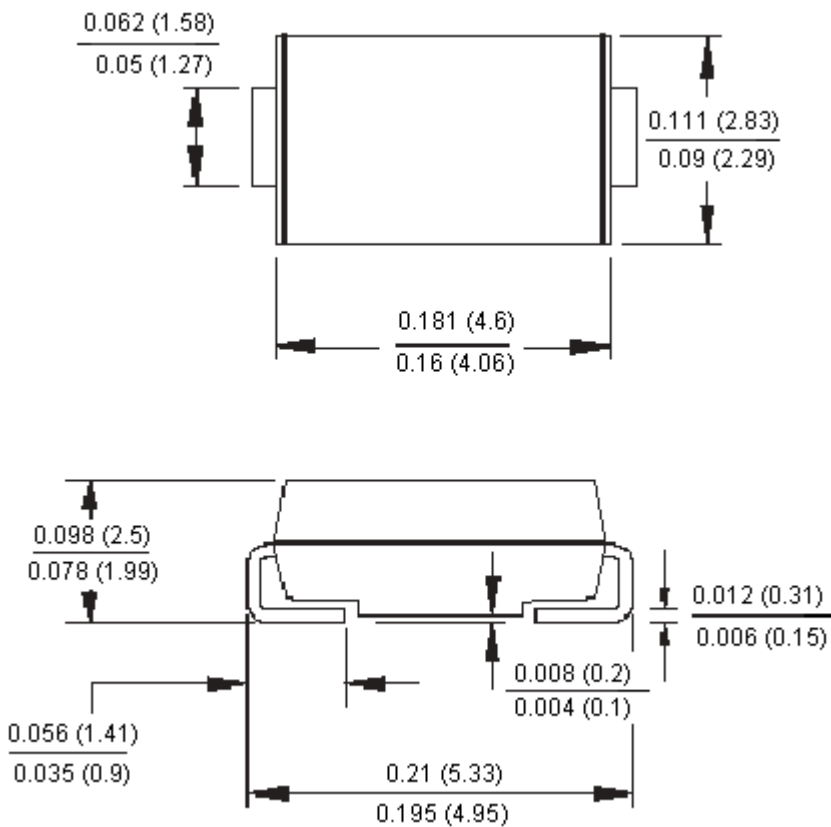


Features:

- Glass passivated junction chip
- 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



SMB/DO-214AC



Dimensions : Inches (Millimetres)

Mechanical Data

Cases	: Moulded plastic
Terminals	: Solder plated solderable per MIL-STD-750, Method 2026
Polarity	: Indicated by cathode band
Weight	: 0.064 g

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	Units	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1,000	V	
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700		
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1,000		
Maximum Average Forward Rectified Current at $T_L = 110^\circ\text{C}$	$I_{(AV)}$	1							A	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30								
Maximum Instantaneous Forward Voltage at 1 A	V_F	1				1.7				V
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$	I_R	5				150				μA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	50				75				pF
Typical Junction Capacitance (Note 2)	C_j	15				10				$^\circ\text{C}/\text{W}$
Maximum Thermal Resistance (Note 3)	$R_{\theta JL}$ $R_{\theta JA}$	75				27				$^\circ\text{C}$
Operating Temperature Range	T_J	-55 to +150								
Storage Temperature Range	T_{STG}									

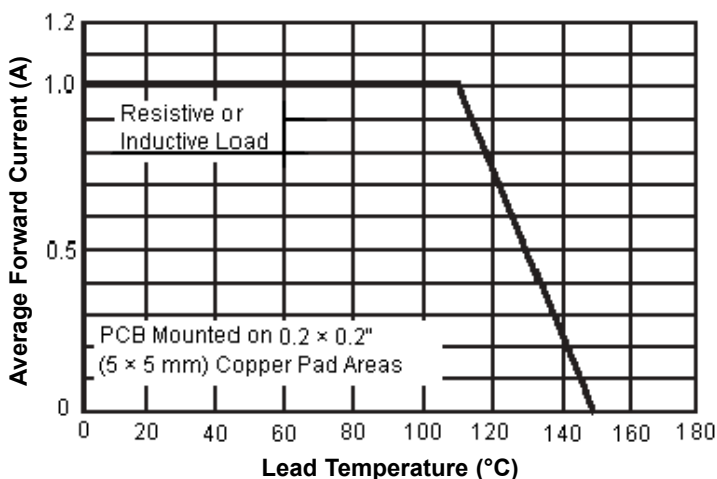
Notes : 1. Reverse Recovery Test Conditions: $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{RR} = 0.25\text{ A}$

2. Measured at 1MHz and Applied $V_R = 4\text{ Volts}$

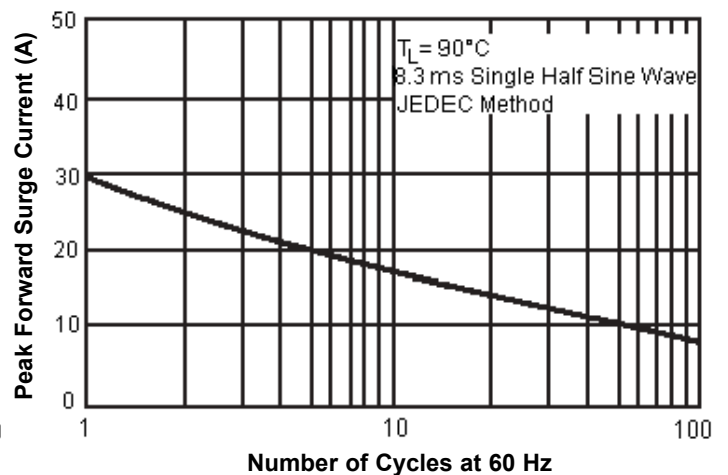
3. PCB Mounted on 0.2×0.2 inches ($5 \times 5\text{ mm}$) Copper Pad Area

Ratings and Characteristic Curves (US1A, US1B, US1D, US1G, US1J, US1K, US1M)

Maximum Forward Current Derating Curve

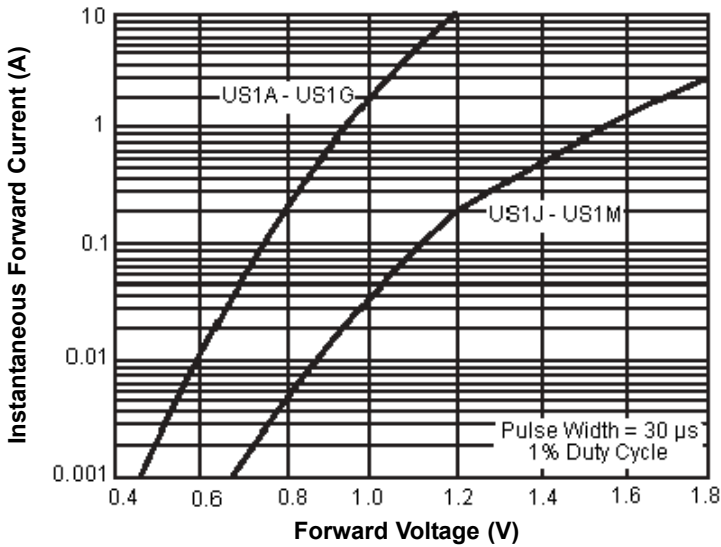


Maximum Non-Repetitive Forward Surge Current

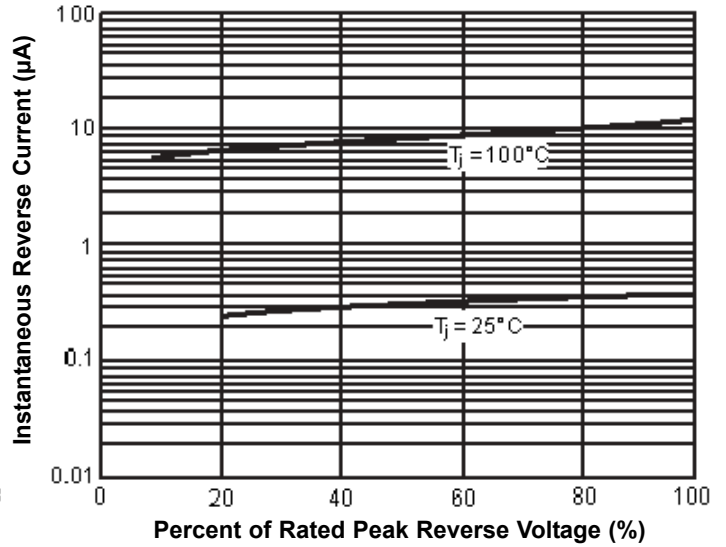


Ratings and Characteristic Curves (US1A, US1B, US1D, US1G, US1J, US1K, US1M)

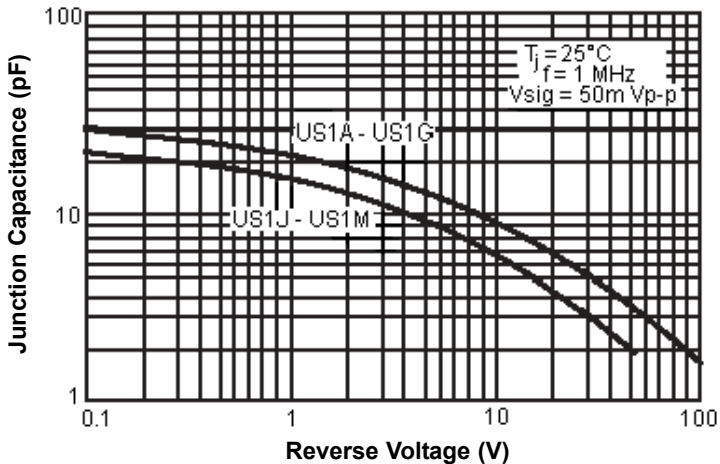
Typical Instantaneous Forward Characteristics



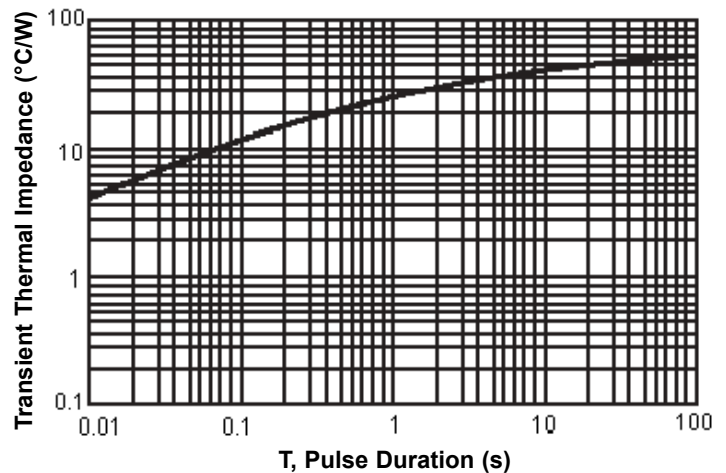
Typical Reverse Characteristics



Typical Junction Capacitance



Typical Transient Thermal



Part Number Table

Description	Part Number
Diode, Ultra-Fast, 1A, 50V	US1A
Diode, Ultra-Fast, 1A, 100V	US1B
Diode, Ultra-Fast, 1A, 200V	US1D
Diode, Ultra-Fast, 1A, 400V	US1G
Diode, Ultra-Fast, 1A, 600V	US1J
Diode, Ultra-Fast, 1A, 800V	US1K
Diode, Ultra-Fast, 1A, 1,000V	US1M

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