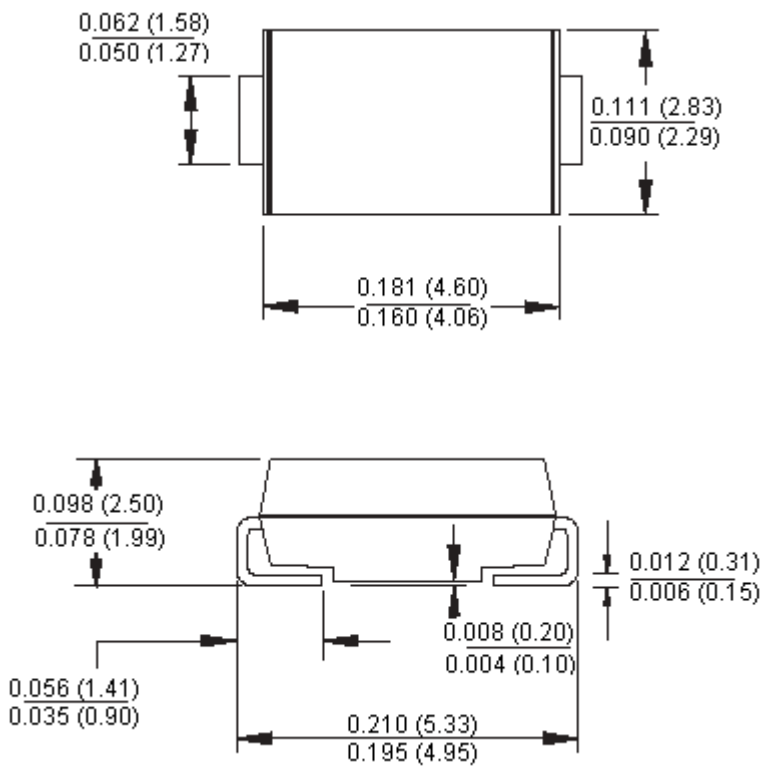




Features:

- Glass passivated junction chip.
- For surface mounted application.
- Low profile package.
- Built-in strain relief.
- Ideal for automated placement.
- Easy pick and place.
- Super fast recovery time for high efficiency.
- Glass passivated chip junction.
- High temperature soldering: 260°C/10 seconds at terminals.
- Plastic material.

SMA/DO-214AC



Dimensions : Inches (Millimetres)

Mechanical Data:

Cases	: Moulded plastic.
Terminals	: Pure tin plated, lead free.
Polarity	: Indicated by cathode band.
Packing	: 12mm tape per EIA STD RS-481.
Weight	: 0.064 gram.

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%.

Type Number	Symbol	ES1A	ES1F	ES1G	ES1H	ES1J	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	300	400	500	600	V
Maximum RMS Voltage	V_{RMS}	35	210	280	350	420	
Maximum DC Blocking Voltage	V_{DC}	50	300	400	500	600	
Maximum Average Forward Rectified Current	$I_{(AV)}$	1.0					A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30					
Maximum Instantaneous Forward Voltage at 1.0A	V_F	0.95	1.3	1.7		v	
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 100^\circ\text{C}$	I_R	5.0 100					μA μA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	35					nS
Typical Junction Capacitance (Note 2)	C_j	10	8				pF
Maximum Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	85 35					$^\circ\text{C}/\text{W}$
Operating Temperature Range	T_J	-55 to +150					$^\circ\text{C}$
Storage Temperature Range	T_{STG}						

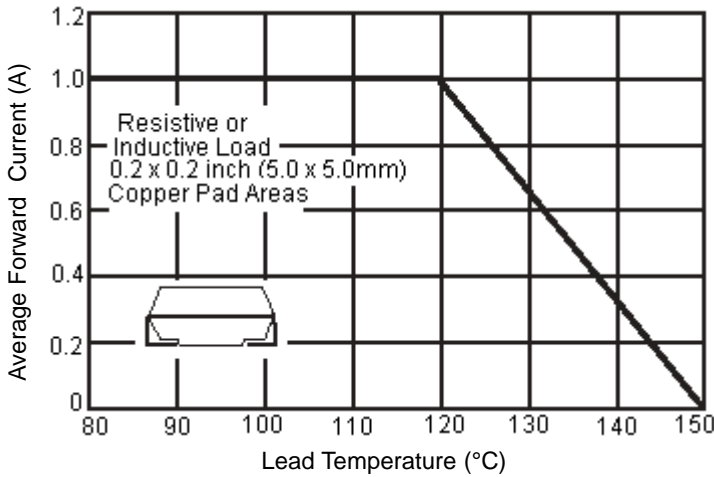
Notes: 1. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$.

2. Measured at 1MHz and Applied $V_R = 4.0$ Volts.

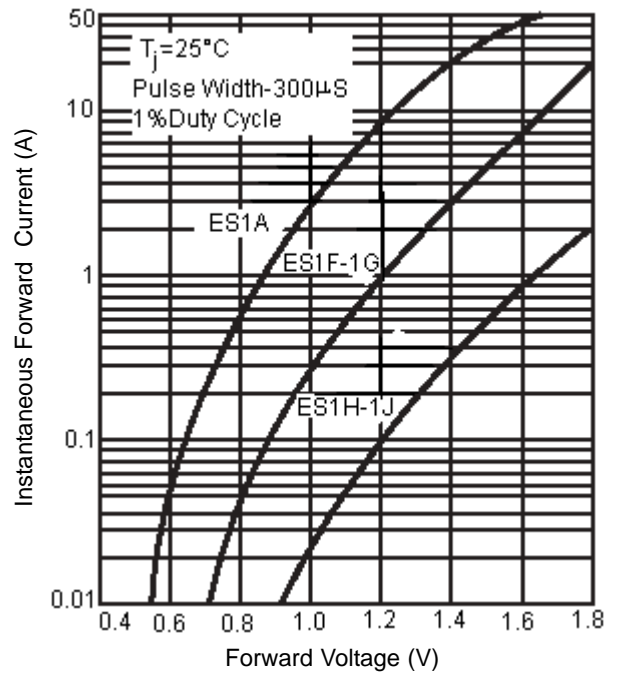
3. PCB Mounted on 0.2 x 0.2 inches (5.0 x 5.0mm) Copper Pad Area.

Ratings and Characteristic Curves (ES1A, ES1F, ES1G, ES1H and ES1J)

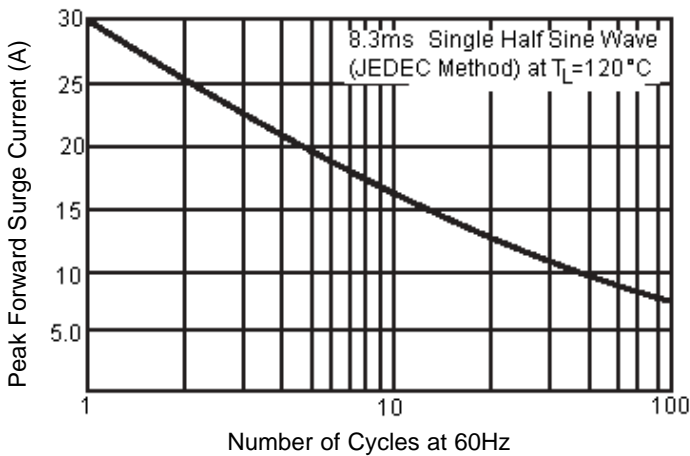
Maximum Forward Current Derating Curve



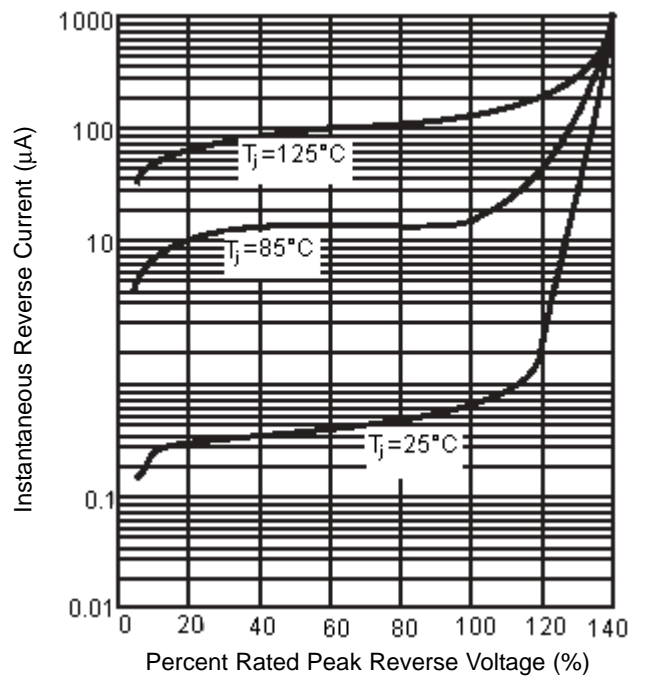
Typical Instantaneous Forward Characteristics



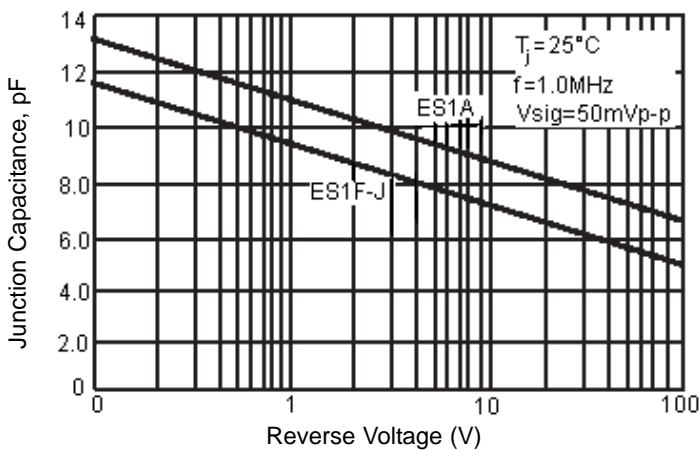
Maximum Non-Repetitive Peak Forward Surge Current



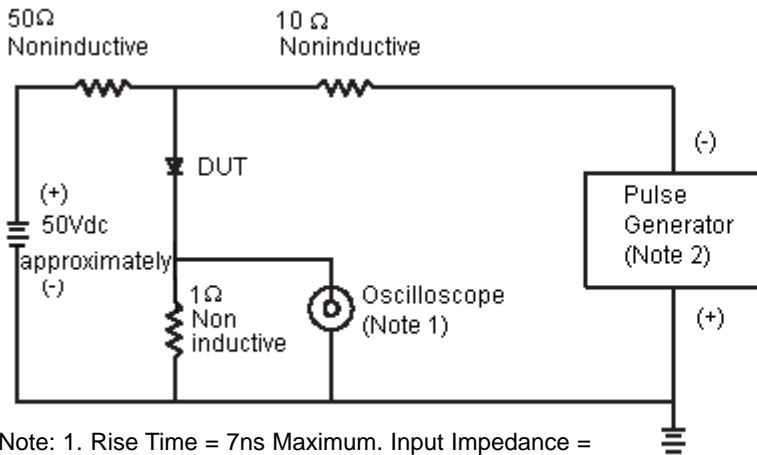
Typical Reverse Characteristics



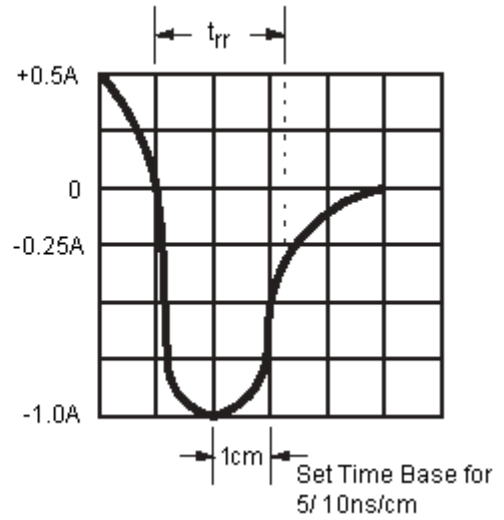
Typical Junction Capacitance



Reverse Recovery Time Characteristic and Test Circuit Diagram



- Note: 1. Rise Time = 7ns Maximum. Input Impedance = 1 Megohm 22pf
 2. Rise Time = 10ns Maximum Source Impedance = 50 ohms



Part Number Table

Description	Part Number
Diode, Ultra-Fast, 1A, 50V	ES1A
Diode, Ultra-Fast, 1A, 300V	ES1F
Diode, Ultra-Fast, 1A, 400V	ES1G
Diode, Ultra-Fast, 1A, 500V	ES1H
Diode, Ultra-Fast, 1A, 600V	ES1J

Notes:

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