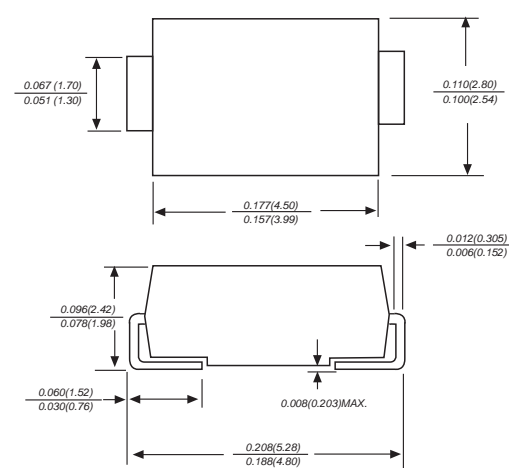


## Surface Mount Superfast Recovery Rectifier

<p style="text-align: center;"><b>SMA</b></p>  <p style="text-align: center;"><i>Dimensions in inches and (millimeters)</i></p>	<p style="text-align: center;"><b>FEATURES</b></p> <ul style="list-style-type: none"> <li>◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0</li> <li>◆ For surface mounted applications</li> <li>◆ Low reverse leakage</li> <li>◆ Built-in strain relief, ideal for automated placement</li> <li>◆ High forward surge current capability</li> <li>◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals</li> <li>◆ Glass passivated chip junction</li> </ul> <p style="text-align: center;"><b>MECHANICAL DATA</b></p> <p><b>Case:</b> JEDEC SMA molded plastic body over passivated chip  <b>Terminals:</b> Solder plated, solderable per MIL-STD-750, Method 2026  <b>Polarity:</b> Color band denotes cathode end  <b>Mounting Position:</b> Any  <b>Weight:</b> 0.002 ounce, 0.07 grams</p>
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### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

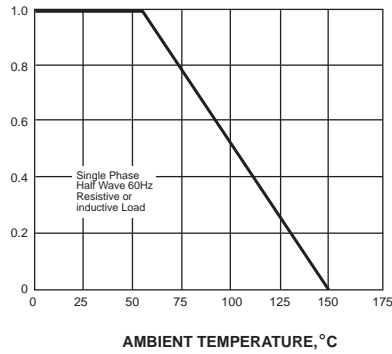
Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Catalog Number	SYMBOLS	ES1J	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	600	VOLTS
Maximum RMS voltage	$V_{RMS}$	420	VOLTS
Maximum DC blocking voltage	$V_{DC}$	600	VOLTS
Maximum average forward rectified current at $T_L=55^\circ\text{C}$	$I_{(AV)}$	1.0	Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30.0	Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.7	Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	5.0 50.0	$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	35	ns
Typical junction capacitance (NOTE 2)	$C_J$	15.0	pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	60.0	$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-50 to +150	$^\circ\text{C}$

**Note:** 1. Reverse recovery condition  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$   
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

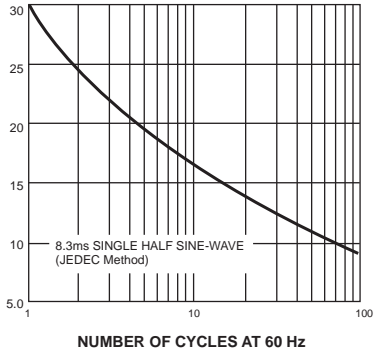
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



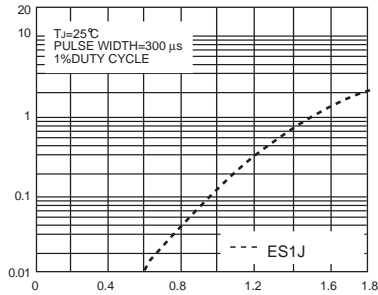
PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



INSTANTANEOUS FORWARD CURRENT, AMPERES

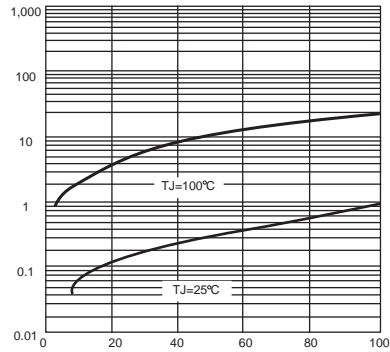
FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

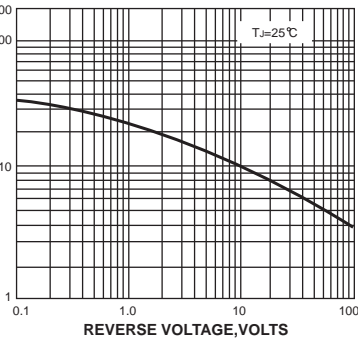
FIG. 4-TYPICAL REVERSE CHARACTERISTICS



PERCENT OF PEAK REVERSE VOLTAGE, %

JUNCTION CAPACITANCE, pF

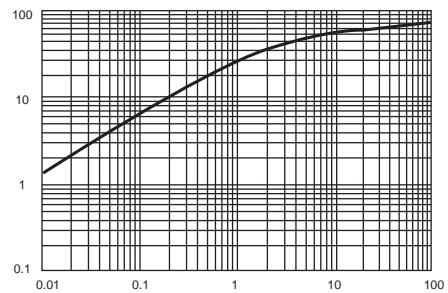
FIG. 5-TYPICAL JUNCTION CAPACITANCE



REVERSE VOLTAGE, VOLTS

TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



t, PULSE DURATION, sec.