

SURFACE MOUNT ULTRAFAST EFFICIENT RECTIFIER

ES1A-1J

Reverse Voltage - 50 to 600 Volts

Forward Current - 1.0 Ampere

FEATURES

Plastic package has Underwriters Laboratory

Flammability Classification 94V-0

Glass passivated chip junctions

Ultrafast recovery times for high efficiency

Low forward voltage, low power loss

High temperature soldering guaranteed:

260°C/10 seconds on terminals

MECHANICAL DATA

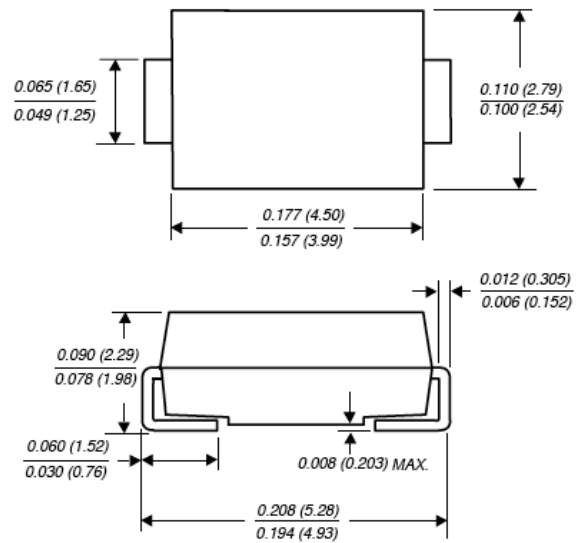
Case: JEDEC DO-214AC molded plastic body

Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Weight: 0.002 ounces, 0.064 gram

SMA (DO214AC)



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

		ES1A	ES1B	ES1D	ES1G	ES1J	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	V
Maximum RMS voltage	V_{RWS}	35	70	140	280	420	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	V
Maximum average forward rectified current at $T_L=110^\circ\text{C}$	$I_{F(AV)}$	1					A
Peak forward surge current 8.3ms single half-sine-wave	I_{FSM}	30					A
Maximum instantaneous forward voltage at $I_{FM}=1.0\text{A}$	V_F	0.95			1.7		V
Maximum DC reverse current $T_J=25^\circ\text{C}$ At rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	5 200					μA
Maximum reverse recovery time	T_{rr}	30			50		nS
Typical junction capacitance	C_j	19			19		PF
Maximum thermal resistance	$R_{\theta JA}$	75					$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	27					$^\circ\text{C}/\text{W}$
Storage temperature range	T_{STG}	-55 to +150					$^\circ\text{C}$

NOTE : 1.Pulse test: Pulse width 300us, duty cycle 1%

Ratings and Characteristic Curves

FIG. 1 FORWARD DERATING CURVE

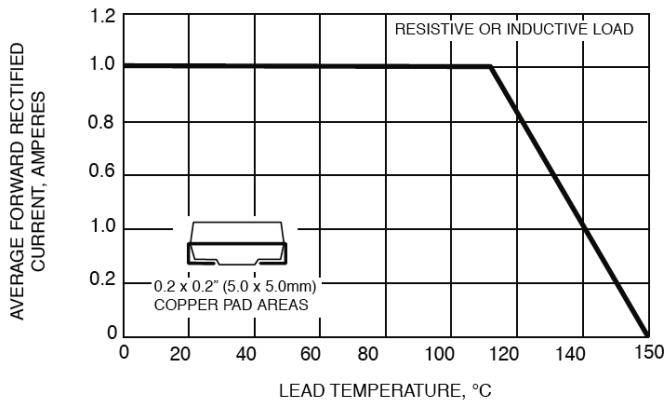


FIG. 2 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

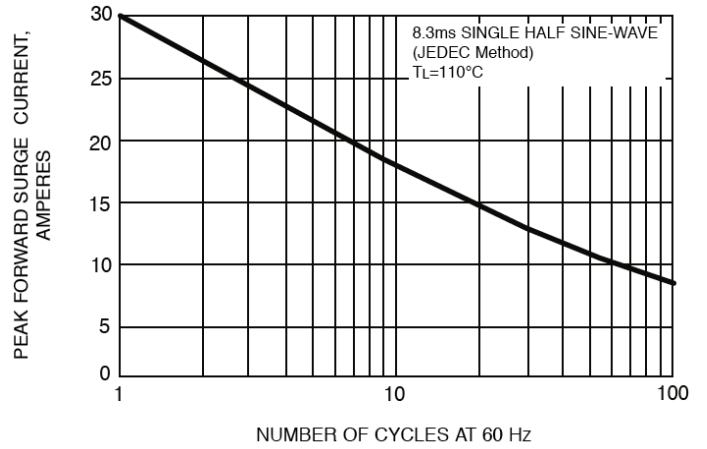


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

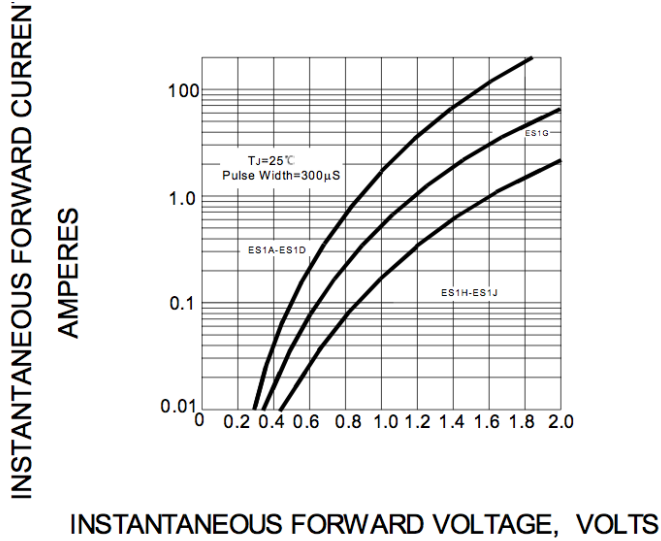


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

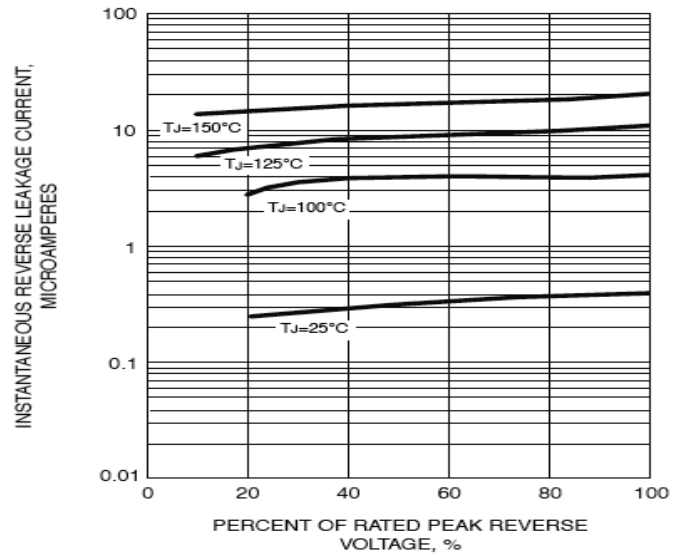


FIG. 5 TYPICAL JUNCTION CAPACITANCE

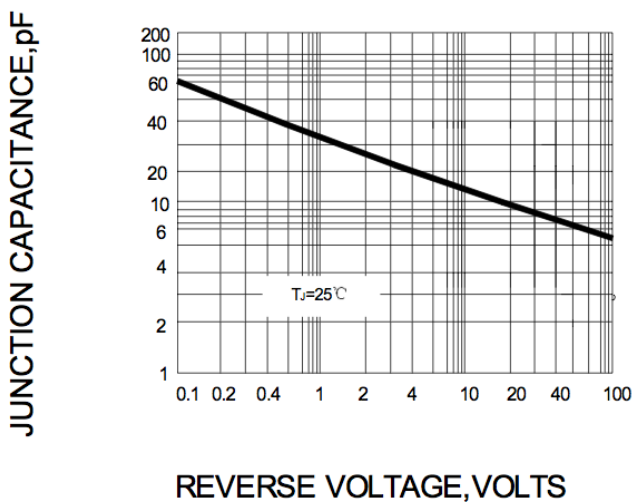


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

