

ES1A THRU ES1J

SURFACE MOUNT FAST ULTRAFAST RECTIFIER

VOLTAGE: 50 TO 600V

CURRENT: 1.0A



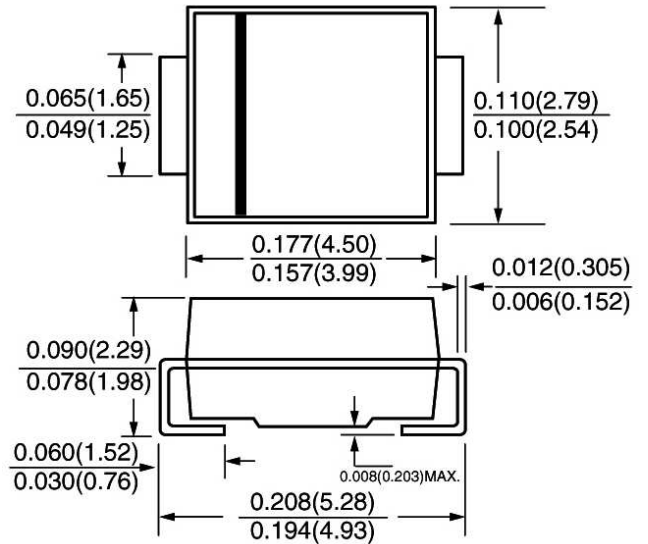
FEATURE

Ideal for surface mount pick and place application
 Low profile package
 Built-in strain relief
 High surge capability
 High temperature soldering guaranteed
 260°C/10sec/at terminals
 Glass passivated chip
 Ultrafast recovery time for high efficiency

MECHANICAL DATA

Terminal: Solder plated, solderable per MIL-STD-750,
 Method 2026
 Case: JEDEC DO-214AC molded plastic body over
 passivated chip
 Polarity: Color band denotes cathode

SMA / DO-214AC



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(single-phase, half-wave, 60HZ, resistive or inductive load rating at 25°C, unless otherwise stated,
 for capacitive load, derate current by 20%)

	SYMBOL	ES1A	ES1B	ES1C	ES1D	ES1G	ES1J	units
Maximum Recurrent Peak Reverse Voltage	V _{rrm}	50	100	150	200	400	600	V
Maximum RMS Voltage	V _{rms}	35	70	105	140	280	420	V
Maximum DC blocking Voltage	V _{dc}	50	100	150	200	400	600	V
Maximum Average Forward Rectified Current 3/8" lead length at T _L =110°C	I _{f(av)}	1.0						A
Peak Forward Surge Current 8.3ms single half sine- wave superimposed on rated load	I _{fsm}	30.0						A
Maximum Forward Voltage at rated forward current	V _f	0.92			1.25		1.5	V
Maximum DC Reverse Current Ta =25°C at rated DC blocking voltage Ta =125°C	I _r	10.0 100.0						μA μA
Maximum Reverse Recovery Time (Note 1)	T _{rr}	15			25		35	nS
Typical Junction Capacitance (Note 2)	C _j	18.0						pF
Typical Thermal Resistance (Note 3)	R(jl)	30.0						°C/W
Storage and Operating Junction Temperature	T _{stg} , T _j	-50 to +150						°C

Note:

- Reverse Recovery Condition I_f =0.5A, I_r =1.0A, I_{rr} =0.25A
- Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
- Thermal Resistance from Junction to terminal mounted on 5×5mm copper pad area¹

RATINGS AND CHARACTERISTIC CURVES ES1A THRU ES1J

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

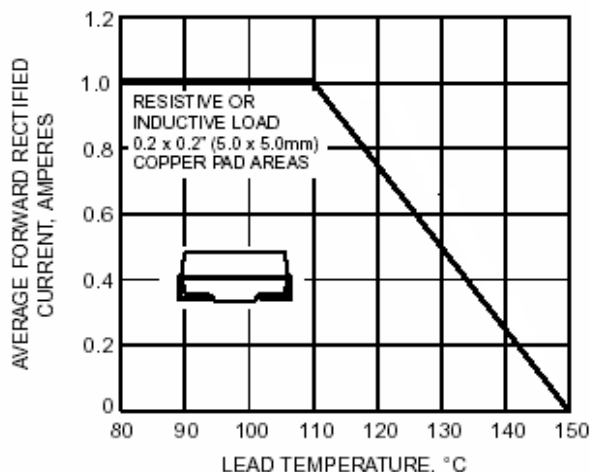


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

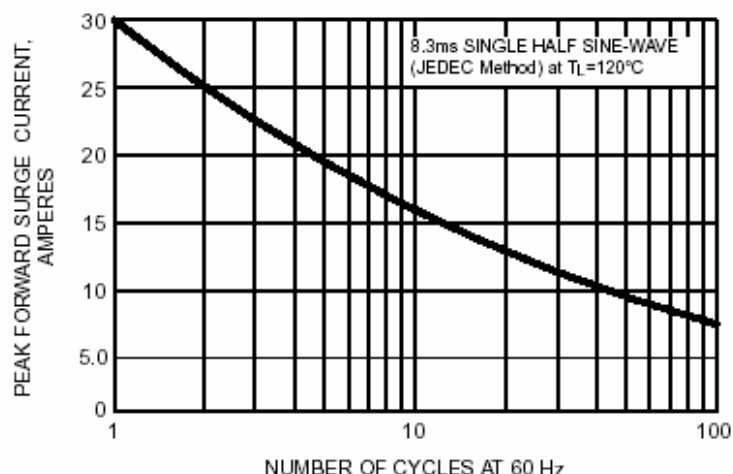


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

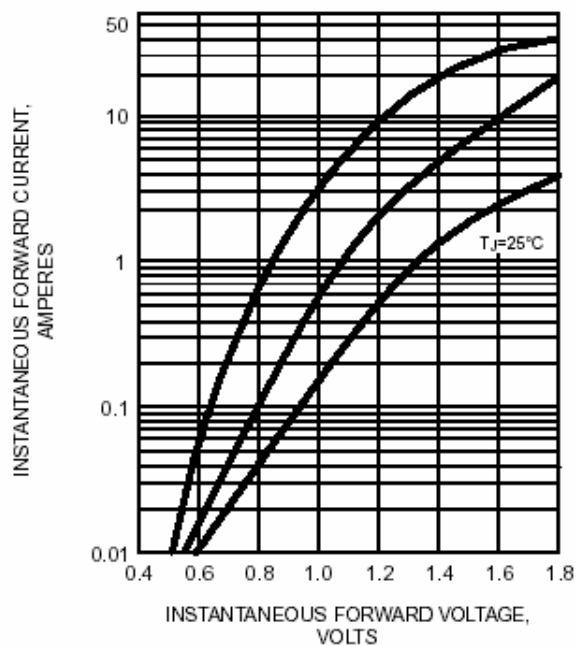


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

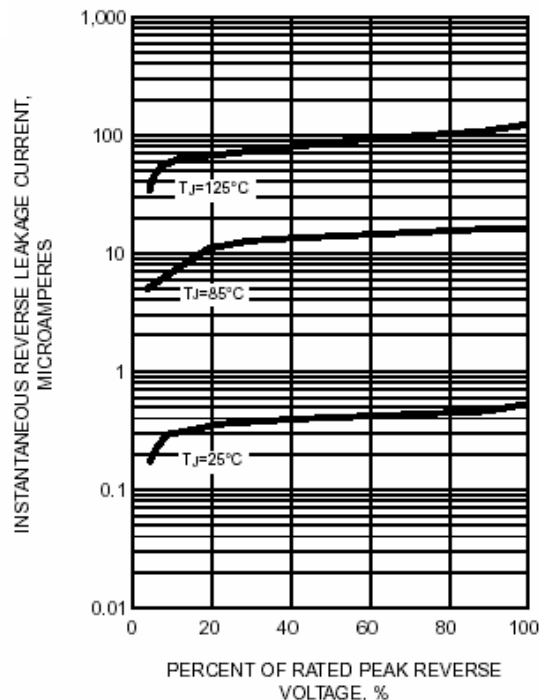


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

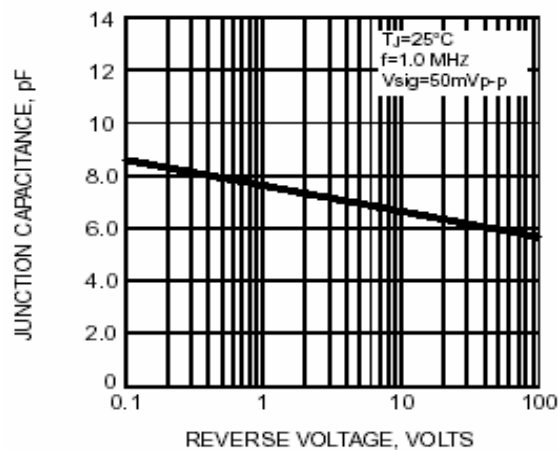


FIG. 6 - TYPICAL THERMAL IMPEDANCE

