ES1A THRU ES1J

SURFACE MOUNT FAST ULTRAFAST RECTIFIER

VOLTAGE：50 TO 600V　　CURRENT： 1.0A

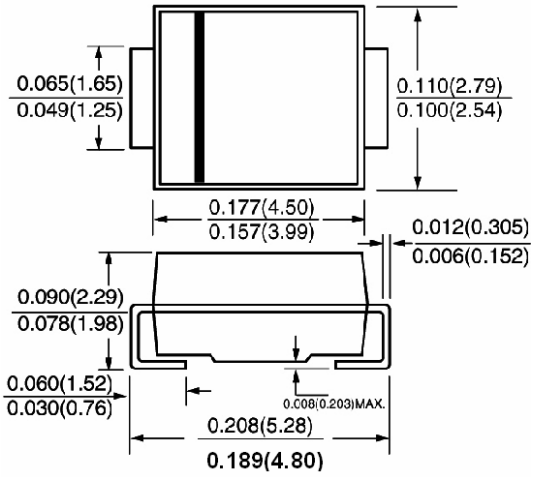
FEATURE

Ideal for surface mount pick and place application
Low profile package
Built-in strain relief
High surge capability
High temperature soldering guaranteed
260℃/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



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOL	ES1A	ES1B	ES1C	ES1D	ES1G	ES1J	units
Maximum Recurrent Peak Reverse Voltage	Vrrm	50	100	150	200	400	600	V
Maximum RMS Voltage	Vrms	35	70	105	140	280	420	V
Maximum DC blocking Voltage	Vdc	50	100	150	200	400	600	V
Maximum Average Forward Rectified Current 3/8″ lead length at T_L =110℃	If(av)	1.0						A
Peak Forward Surge Current 8.3ms single half sine- wave superimposed on rated load	Ifsm	30.0						A
Maximum Forward Voltage at rated forward current	Vf	0.92				1.25	1.5	V
Maximum DC Reverse Current Ta =25℃	Ir	10.0						μA
at rated DC blocking voltage Ta =125℃		100.0						μA
Maximum Reverse Recovery Time (Note1)	Trr	15				25	35	nS
Typical Junction Capacitance (Note 2)	Cj	18.0						pF
Typical Thermal Resistance (Note 3)	R(jl)	30.0						℃/W
Storage and Operating Junction Temperature	Tstg, Tj	-50 to +150						℃

Note：

1. Reverse Recovery Condition If =0.5A, Ir =1.0A, Irr =0.25A
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Thermal Resistance from Junction to terminal mounted on 5×5mm copper pad area[1]

RATINGS AND CHARACTERISTIC CURVES ES1A THRU ES1J

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

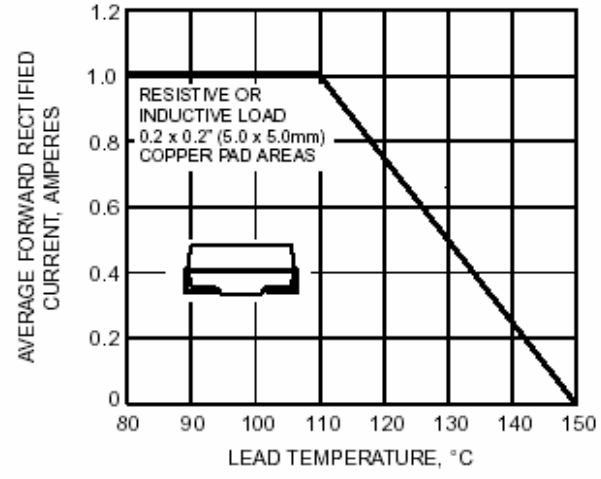


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

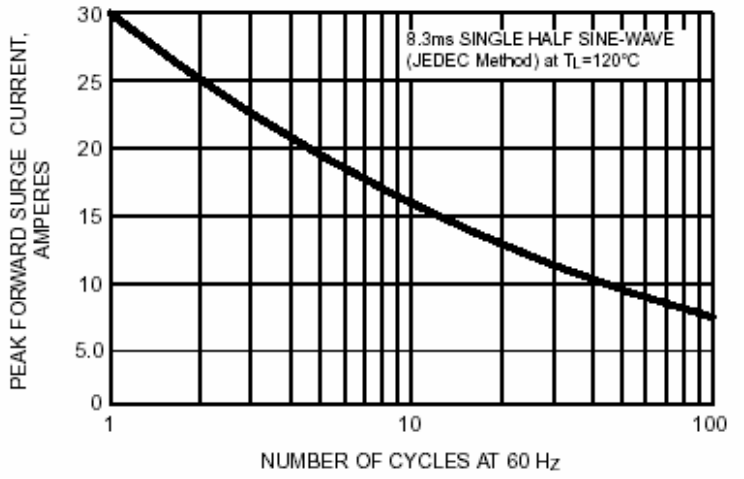


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

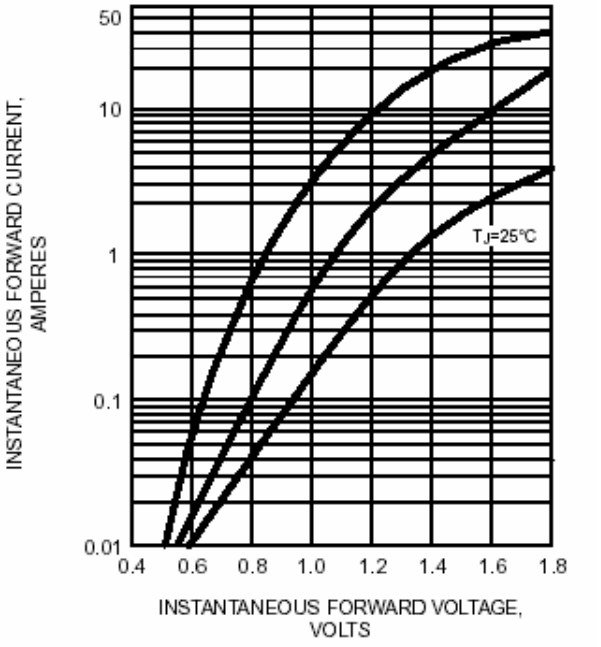


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

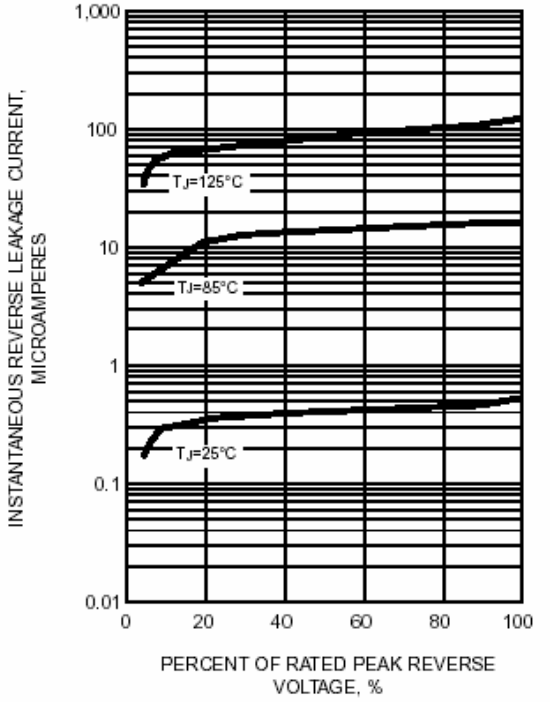


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

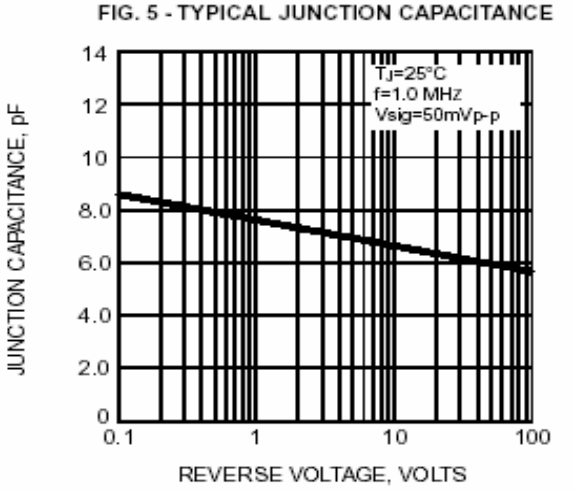


FIG. 6 - TYPICAL THERMAL IMPEDANCE