



Surface Mount Superfast Recovery Rectifier

ES1A thru ES1K

Crownpo Technology

Reverse Voltage : 50V to 800V
Forward Current : 1.0Amp

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For surface mounted applications
- Low profile package
- Easy pick and place
- Built-in strain relief
- Superfast recovery times for high efficiency
- High temperature soldering : 250°C /10 seconds at terminals

MECHANICAL DATA

Case : Molded plastic, DO-214AC(SMA)

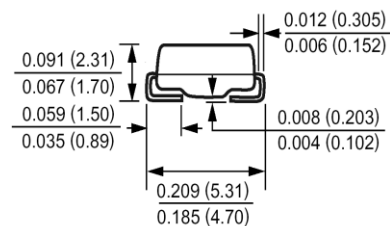
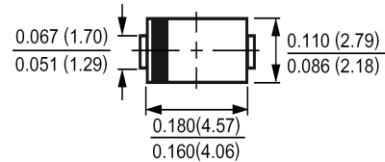
Terminals: Solder plated, solderable per MIL-STD-750, method 2026 guaranteed

Polarity : Color band denotes cathode end

Packaging : 12mm tape per EIA STD RS-481

Weight : 0.002 ounce, 0.064 gram

DO-214AC(SMA)



Dimensions in inchs and (millimeters)

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, derate current by 20%.

Parameter	Symbol	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	ES1K	Unit
Maximum Recerrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	800	V
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	560	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	800	V
Maximum Average Forward Rectified Current at $T_L=100^\circ\text{C}$	$I_{F(AV)}$	1.0								A
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30								A
Maximum Forward Voltage at 1.0A	V_F	0.95			1.25		1.70			V
Maximum Reverse Current at $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$	I_R	5.0								μA
Typical Junction Capacitance (Note 1)	C_J	10			8					pF
Typical Thermal Resistance (Note 2)	$R_{\theta JL}$	35								$^\circ\text{C/W}$
Maximum Reverse Recovery Time (Note 3)	T_{RR}	35								nS
Operating Junction Temperature Range	T_J	-65 to +150								$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +150								$^\circ\text{C}$

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to lead mounted on P.C.B. with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

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



RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

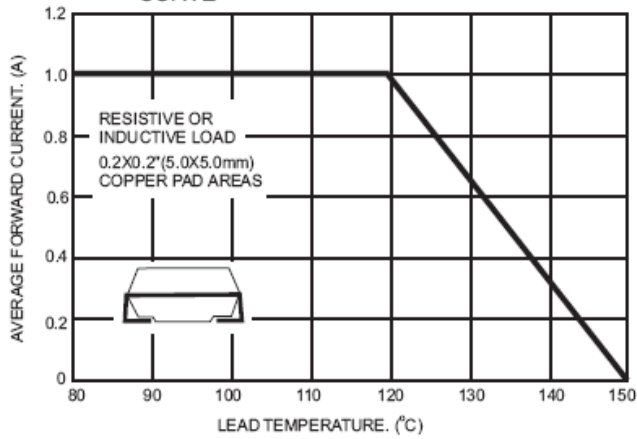


Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

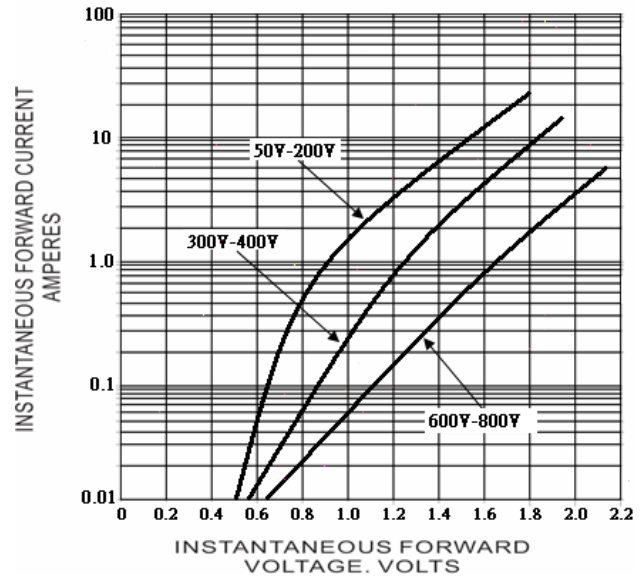


Fig.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

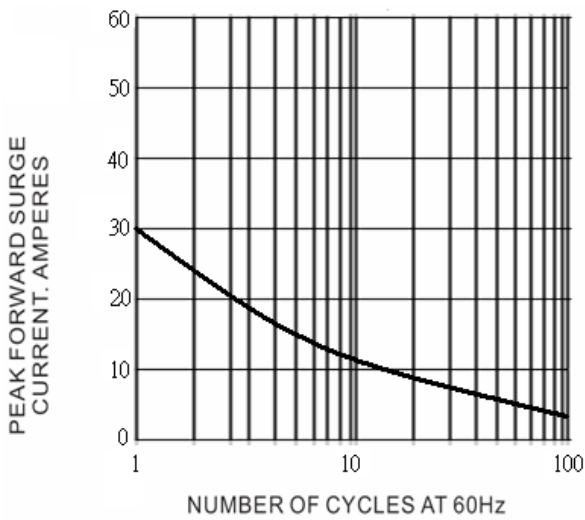


Fig.4- TYPICAL REVERSE CHARACTERISTIC

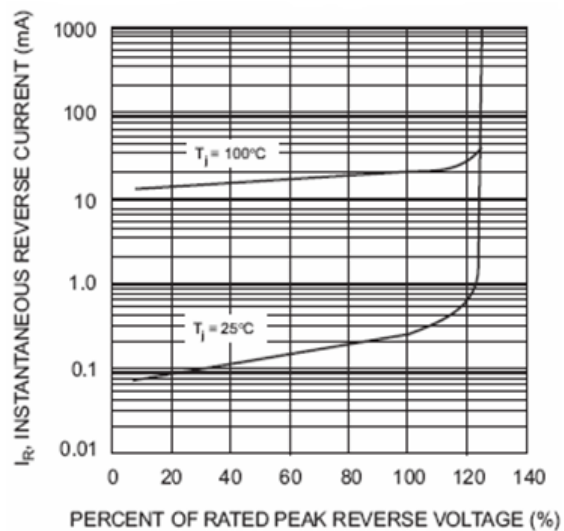


FIG.5- TYPICAL JUNCTION CAPACITANCE

