



SE3A THRU SE3M

SURFACE MOUNT HIGH EFFICIENCY RECTIFIER

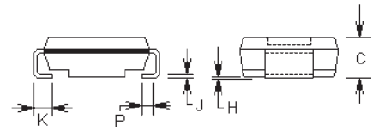
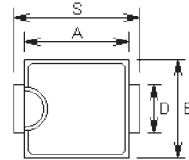
Reverse Voltage - 50 to 1000 Volts

Forward Current - 3.0 Amperes

Features

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability classification 94V-0
- High temperature soldering: 260°C/10 seconds at terminals

SMC



Mechanical Data

- **Case:** SMC molded plastic
- **Terminals:** Solder plated solderable per MIL-STD-750, method 2026
- **Polarity:** Indicated by cathode band
- **Weight:** 0.007 ounce, 0.25 gram

DIM	DIMENSIONS				Note
	inches		mm		
	Min.	Max.	Min.	Max.	
A	0.260	0.280	6.60	7.11	
B	0.220	0.240	5.59	6.10	
C	0.075	0.095	1.90	2.41	
D	0.115	0.121	2.92	3.07	
H	0.0020	0.0080	0.051	0.152	
J	0.006	0.012	0.15	0.30	
K	0.030	0.050	0.76	1.27	
P	0.020 REF		0.51 REF		
S	0.305	0.320	7.75	8.13	

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Resistive or inductive load.

For capacitive load, derate current by 20%.

	Symbols	SE3A	SE3B	SE3D	SE3E	SE3G	SE3J	SE3K	SE3M	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	600	800	1000	Volts
Maximum average forward rectified current at $T_J=75^\circ\text{C}$	$I_{(AV)}$	3.0								Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method) $T_A=55^\circ\text{C}$	I_{FSM}	100.0								Amps
Maximum instantaneous forward voltage at 3.0A	V_F	1.0		1.3		1.5		1.7		Volts
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	I_R	10.0 500.0								μA
Maximum reverse recovery time (Note 1) $T_J=25^\circ\text{C}$	T_{rr}	50.0				100.0				nS
Typical junction capacitance (Note 2)	C_J	75.0				50.0				μF
Maximum thermal resistance (Note 3)	$R_{\theta JL}$	15								$^\circ\text{C/W}$
Operating and storage temperature range	T_J, T_{STG}	-50 to +150								$^\circ\text{C}$

Notes:

- (1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$
- (2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts
- (3) 8.0mm² (0.013mm thick) land areas

RATINGS AND CHARACTERISTIC CURVES

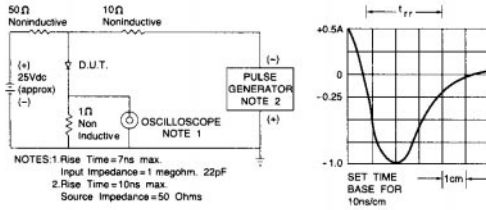


FIG. 1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

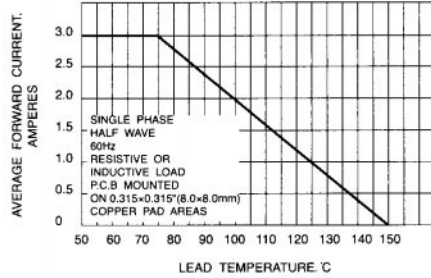


FIG. 2 - MAXIMUM AVERAGE FORWARD CURRENT RATING

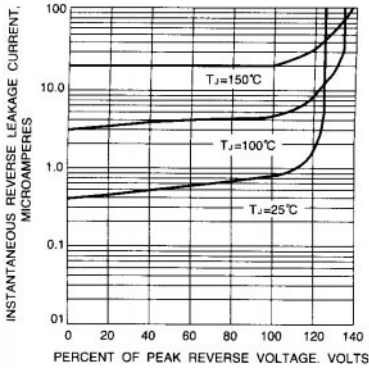


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

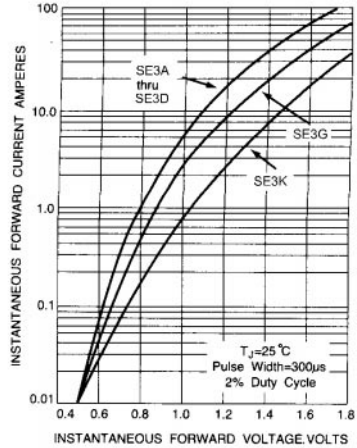


FIG. 4 - TYPICAL FORWARD CHARACTERISTICS

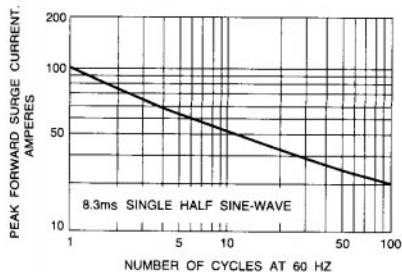


FIG. 5 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

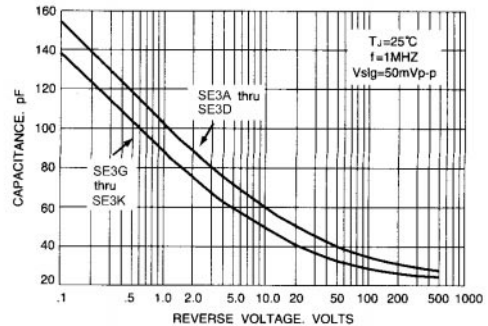


FIG. 6 - TYPICAL JUNCTION CAPACITANCE