



# SE1A THRU SE1M

## SURFACE MOUNT HIGH EFFICIENCY RECTIFIER

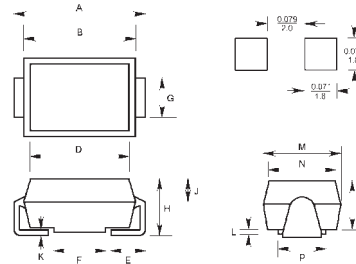
Reverse Voltage - 50 to 1000 Volts

Forward Current - 1.0 Ampere

### 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

SMA



### Mechanical Data

- **Case:** SMA, molded plastic
- **Terminals:** Solder plated solderable per MIL-STD-750, method 2026
- **Polarity:** Indicated by cathode band
- **Weight:** 0.004 ounce, 0.11 gram

DIM	DIMENSIONS				Note
	Inches		mm		
	Min.	Max.	Min.	Max.	
A	0.216	0.226	5.48	5.74	
B	0.176	0.182	4.48	4.63	
C	0.094	0.100	2.40	2.55	
D	0.170	0.176	4.33	4.48	
E	0.039	0.055	1.00	1.40	
F	0.060	0.081	2.03	2.07	
G	0.068	0.083	1.72	2.10	
H	0.112	0.118	2.85	3.00	
J	0.057	-	1.44	-	
K	-	0.018	-	0.45	
L	0.016	-	0.40	-	
M	0.109	0.115	2.77	2.93	
N	0.105	0.107	2.67	2.73	
P	0.078	0.081	2.00	2.05	

### 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	SE1A	SE1B	SE1D	SE1E	SE1G	SE1J	SE1K	SE1M	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 $T_A=100^\circ\text{C}$	$I_{(AV)}$	1.0								Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method) $T_A=55^\circ\text{C}$	$I_{FSM}$	30.0								Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.00		1.30		1.50	1.70		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								$\mu\text{A}$
Maximum Reverse recovery time (Note 1) $T_J=25^\circ\text{C}$	$T_{rr}$	50				100				nS
Typical junction capacitance (Note 2)	$C_J$	15.0								$\mu\text{F}$
Maximum thermal resistance (Note 3)	$R_{\theta(JL)}$	30.0								$^\circ\text{C/W}$
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) 8.0mm<sup>2</sup> (0.013mm thick) land areas

# RATINGS AND CHARACTERISTIC CURVES

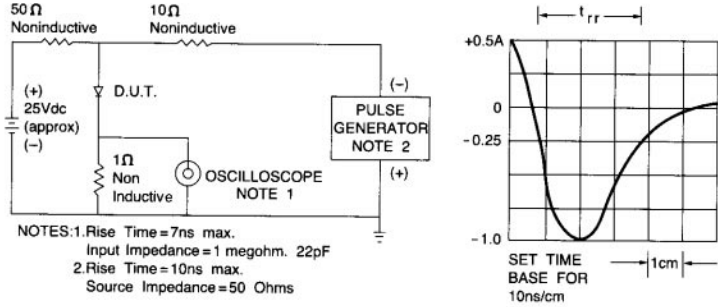


Fig. 1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

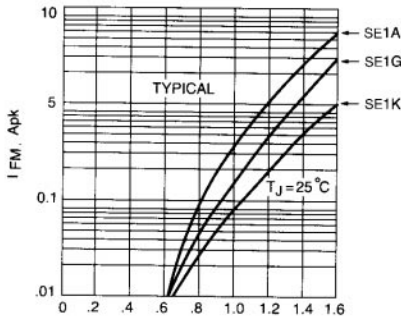


Fig. 2 - FORWARD CHARACTERISTICS

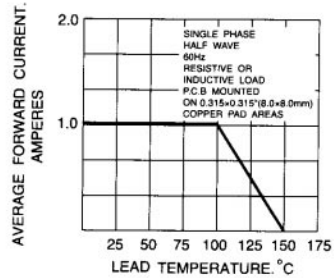


Fig. 3 - FORWARD CURRENT DERATING CURVE

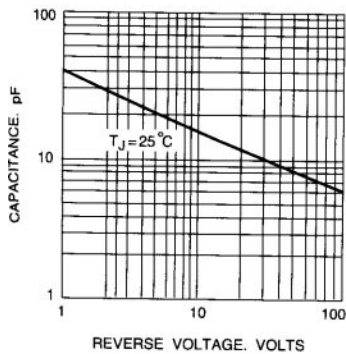


Fig. 4 - TYPICAL JUNCTION CAPACITANCE vs REVERSE VOLTAGE

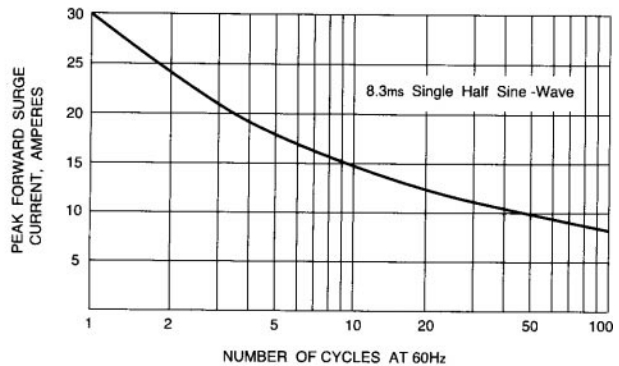


Fig. 5 - PEAK FORWARD SURGE CURRENT