



Surface Mount Ultrafast Plastic Rectifier

Reverse Voltage 50 to 1000V
1.0A

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- For surface mount applications
- Low profile package
- Ultrafast recovery time for high efficiency
- Glass passivated chip junctions
- Low V_f , low power loss
- High temperature soldering guaranteed: 250°C/10 seconds on terminals
- Easy pick and place

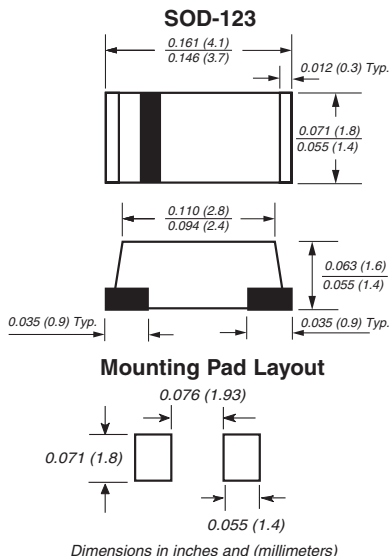
Mechanical Data

Case: JEDEC SOD123/Mini SMA molded plastic

Terminals: Solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Weight: 0.05g



Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	ES1AM	ES1BM	ES1DM	ES1GM	ES1JM	ES1KM	ES1MM	Units
Device marking code		H1	H2	H3	H4	H5	H6	H7	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30							A
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	32							°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150°C							°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	ES1AM	ES1BM	ES1DM	ES1GM	ES1JM	ES1KM	ES1MM	Units
Maximum instantaneous forward voltage at 1.0A ⁽²⁾	V_F	1.0			1.3		1.7		V
Maximum DC reverse current $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	I_R				5.0 150				μA
Maximum reverse recovery time $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$	t_{rr}	50			75				ns
Typical junction capacitance at 4.0V, 1MHz	C_J				20				pF

Notes:

(1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length

(2) Pulse test: 300 μs pulse width, 1% duty cycle



Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 1 - Maximum Forward Current Derating Curve

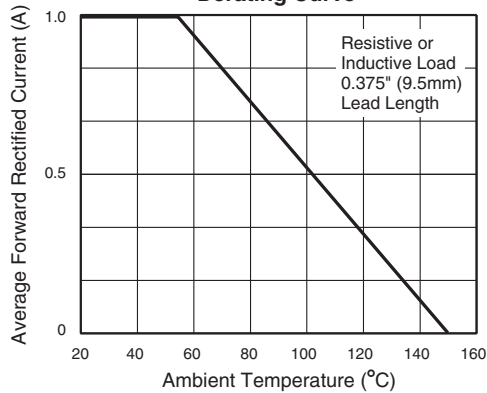


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

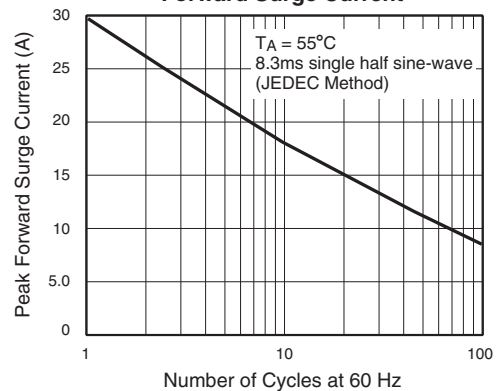


Fig. 3 - Typical Instantaneous Forward Characteristics

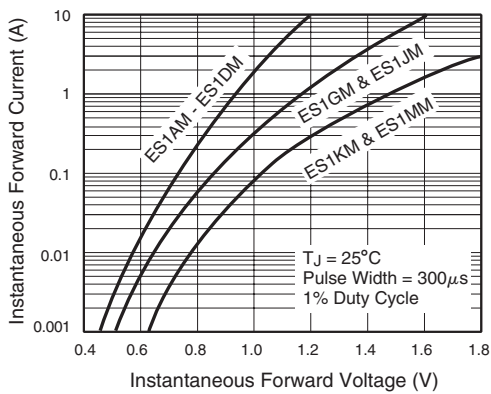


Fig. 4 - Typical Reverse Leakage Characteristics

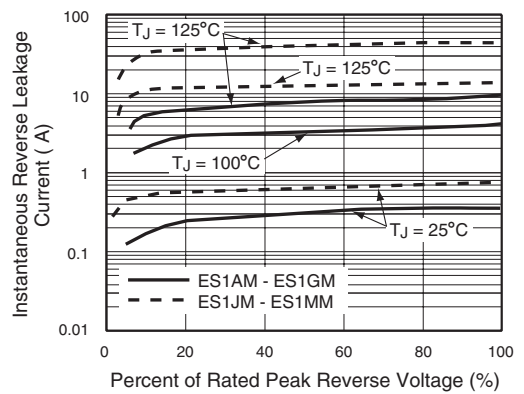


Fig. 5 - Typical Junction Capacitance

