



## 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

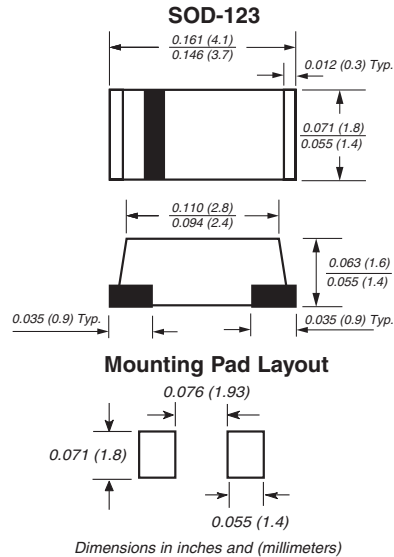
### Mechanical Data

**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 <sup>(1)</sup>	$R_{\theta JA}$	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 <sup>(2)</sup>	$V_F$	1.0		1.3		1.7			V	
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	5.0				150				$\mu\text{A}$
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

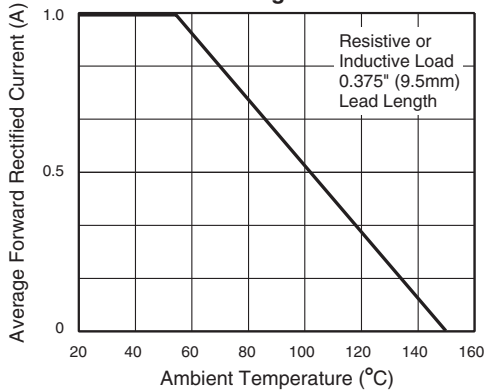
#### Notes:

- (1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length
- (2) Pulse test: 300 $\mu\text{s}$  pulse width, 1% duty cycle

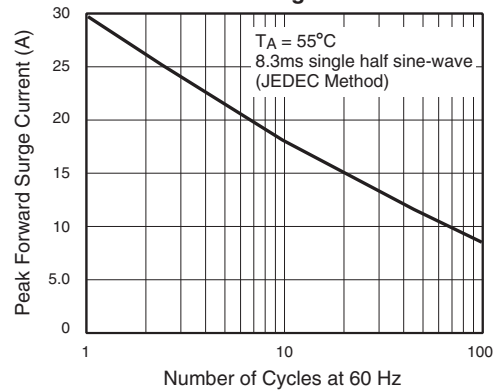


## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

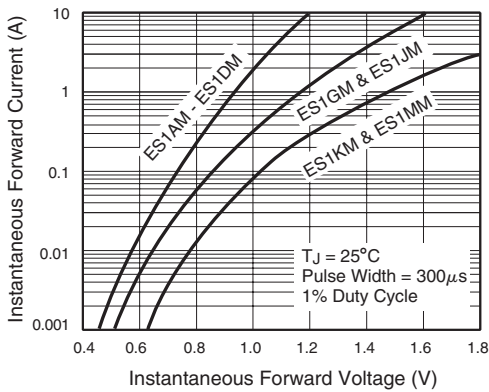
**Fig. 1 - Maximum Forward Current Derating Curve**



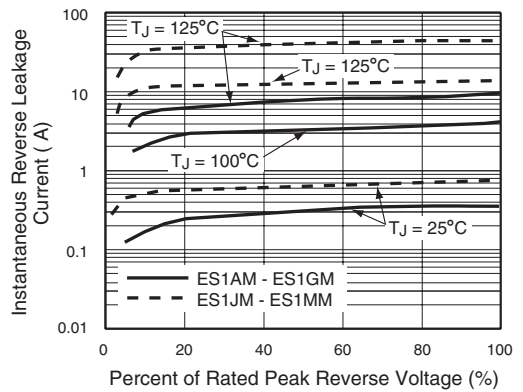
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current**



**Fig. 3 - Typical Instantaneous Forward Characteristics**



**Fig. 4 - Typical Reverse Leakage Characteristics**



**Fig. 5 - Typical Junction Capacitance**

