

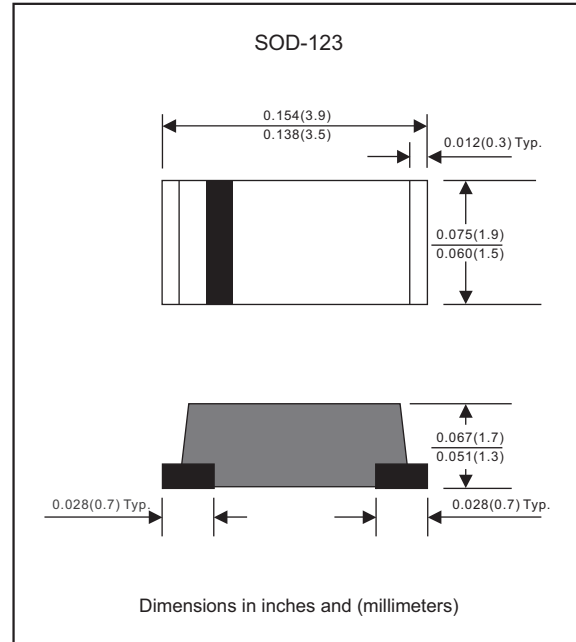
### Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance
- Tiny plastic SMD package
- High current capability
- Superfast recovery time for switching mode application
- High surge current capability
- Glass passivated chip junction
- Lead-free parts meet RoHS requirements
- Suffix "-H" indicates Halogen free parts, ex. SAS11-M-H

### Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123 / MINI SMA
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.018 gram

### Package outline



### Maximum ratings (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOLS	SAS11-M	SAS12-M	SAS13-M	SAS14-M	SAS15-M	SAS16-M	SAS17-M	SAS18-M	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	V
Maximum continuous reverse voltage	$V_R$	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current	$I_o$	1.0								A
Non-repetitive peak forward surge current 8.3ms single half sine-wave	$I_{FSM}$	25								A
Typical junction capacitance (Note 1)	$C_J$	10								pF
Operating junction temperature range	$T_J$	-55 to +150								$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-65 to +175								$^{\circ}\text{C}$

### Electrical characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOLS	SAS11-M	SAS12-M	SAS13-M	SAS14-M	SAS15-M	SAS16-M	SAS17-M	SAS18-M	UNIT
Maximum instantaneous forward voltage at $I_F=1.0\text{A}$	$V_F$	0.95			1.25		1.70			V
Maximum reverse leakage current $T_J=25^{\circ}\text{C}$ at rated $V_R$ $T_J=125^{\circ}\text{C}$	$I_R$					5.0				$\mu\text{A}$ $\mu\text{A}$
Maximum reverse recovery time (Note 2)	$t_{rr}$					35				ns

### Thermal characteristics

PARAMETER	SYMBOLS	SAS11-M	SAS12-M	SAS13-M	SAS14-M	SAS15-M	SAS16-M	SAS17-M	SAS18-M	UNIT
Typical thermal resistance junction to ambient (3)	$R_{\theta JA}$					56				$^{\circ}\text{C}/\text{W}$
Typical thermal resistance junction to case(3)	$R_{\theta JC}$					41				$^{\circ}\text{C}/\text{W}$

Notes 1: Measured at 1 MHz and applied reverse voltage of 4.0 VDC

2: Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{rr} = 0.25\text{A}$

3: Mounted on FR-4 PCB Copper, minimum recommended pad layout

## Rating and characteristic curves (SAS11-M THRU SAS18-M)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

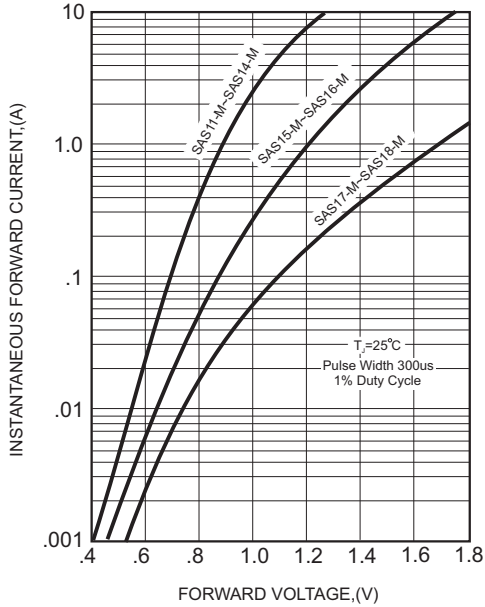


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

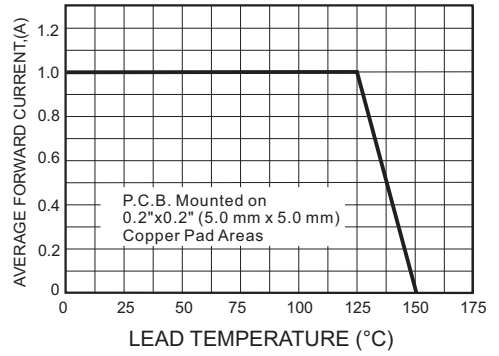


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

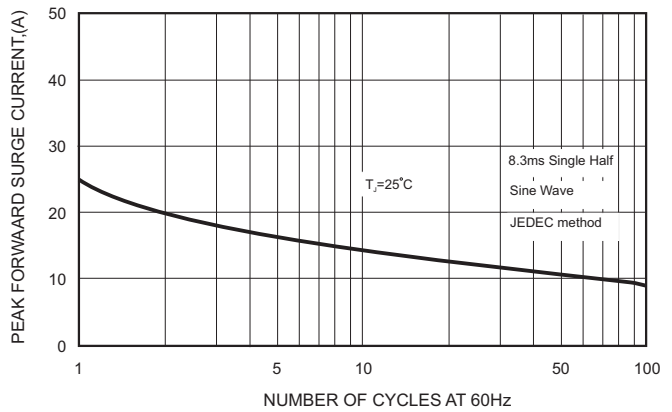
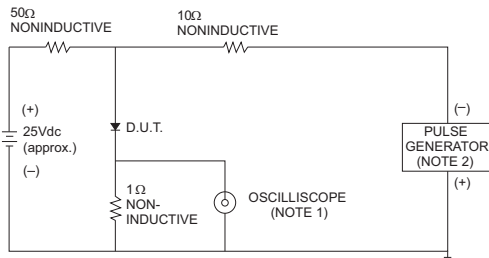


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



- NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.  
 2. Rise Time= 10ns max., Source Impedance= 50 ohms.

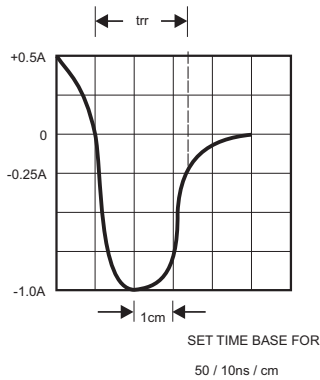
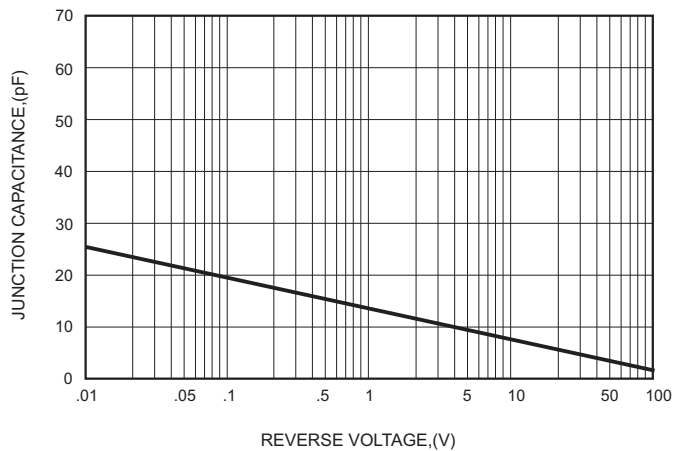




FIG.5-TYPICAL JUNCTION CAPACITANCE



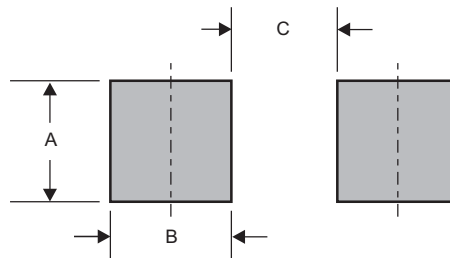
### Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

### Marking

Type number	Marking code
SAS11-M	S1
SAS12-M	S2
SAS13-M	S3
SAS14-M	S4
SAS15-M	S5
SAS16-M	S6
SAS17-M	S7
SAS18-M	S8

### Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.075 (1.90)	0.055 (1.40)	0.075 (1.90)

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