

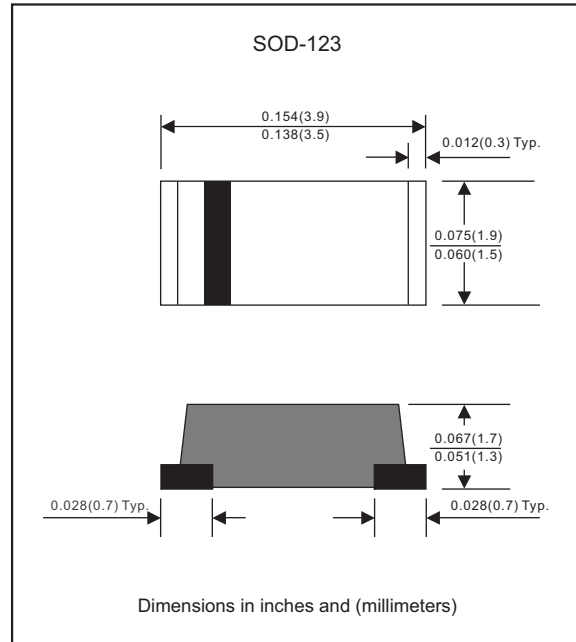
### Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance
- Low profile surface mounted application in order to optimize board space
- Tiny plastic SMD package
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- Guardring for overvoltage protection
- Ultra high-speed switching
- Silicon epitaxial planar chip, metal silicon junction
- Lead-free parts meet RoHS requirements
- Suffix "-H" indicates Halogen free parts, ex. AS220-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 and Electrical characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	$I_o$			2.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	$I_{FSM}$			50	A
Reverse current	$V_R = V_{RRM} \quad T_J = 25^{\circ}\text{C}$	$I_R$			0.5	mA
	$V_R = V_{RRM} \quad T_J = 100^{\circ}\text{C}$				10	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		88		$^{\circ}\text{C}/\text{W}$
	Junction to case	$R_{\theta JC}$		44		$^{\circ}\text{C}/\text{W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	$C_j$		160		pF
Storage temperature		$T_{STG}$	-65		+175	$^{\circ}\text{C}$

SYMBOLS	$V_{RRM}^{*1}$ (V)	$V_{RMS}^{*2}$ (V)	$V_R^{*3}$ (V)	$V_F^{*4}$ (V)	Operating temperature $T_J, (^{\circ}\text{C})$
AS220-M	20	14	20	0.50	-55 to +125
AS230-M	30	21	30		
AS240-M	40	28	40		
AS250-M	50	35	50	0.70	-55 to +150
AS260-M	60	42	60		
AS280-M	80	56	80	0.85	
AS2100-M	100	70	100		
AS2150-M	150	105	150	0.90	
AS2200-M	200	140	200	0.92	

\*1 Repetitive peak reverse voltage

\*2 RMS voltage

\*3 Continuous reverse voltage

\*4 Maximum forward voltage@ $I_F=2.0\text{A}$

## Rating and characteristic curves (AS220-M THRU AS2200-M)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

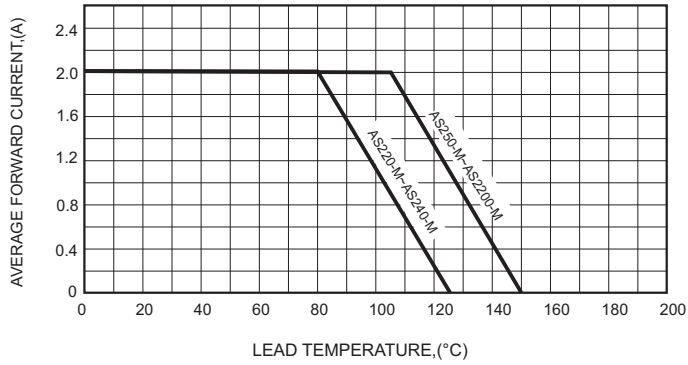


FIG.2-TYPICAL FORWARD CHARACTERISTICS

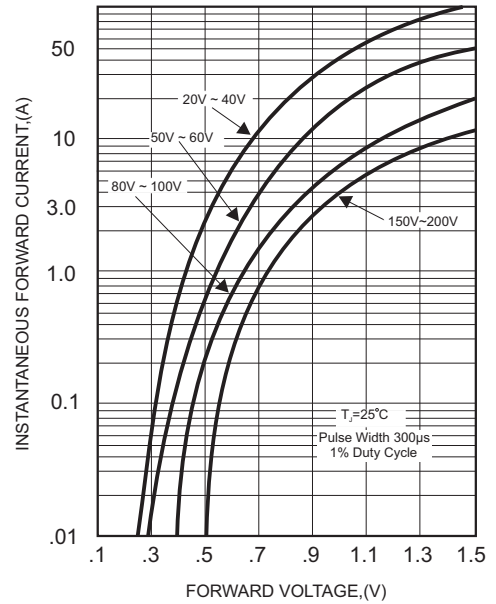


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

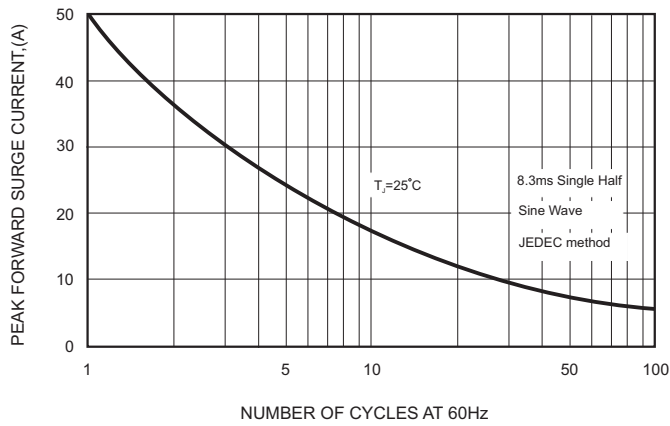


FIG.4-TYPICAL JUNCTION CAPACITANCE

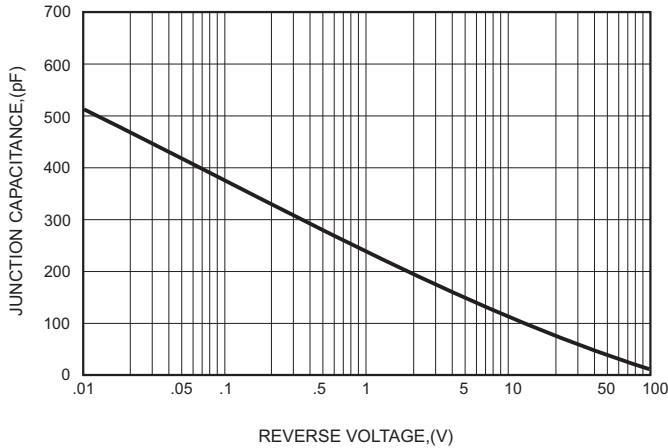
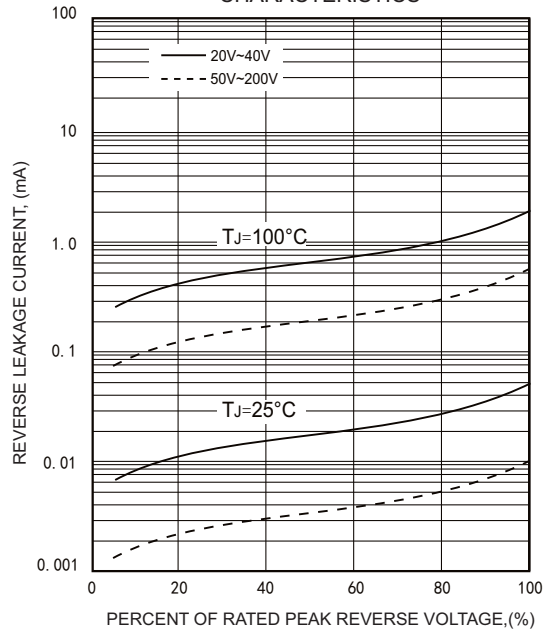




FIG.5 - TYPICAL REVERSE CHARACTERISTICS



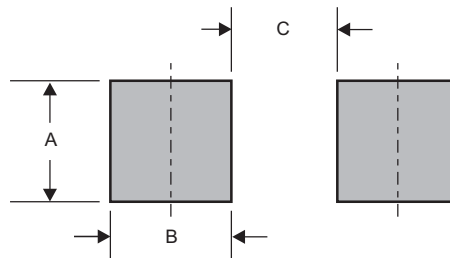
### Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

### Marking

Type number	Marking code
AS220-M	22
AS230-M	23
AS240-M	24
AS250-M	25
AS260-M	26
AS280-M	28
AS2100-M	20
AS2150-M	215
AS2200-M	220

### 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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