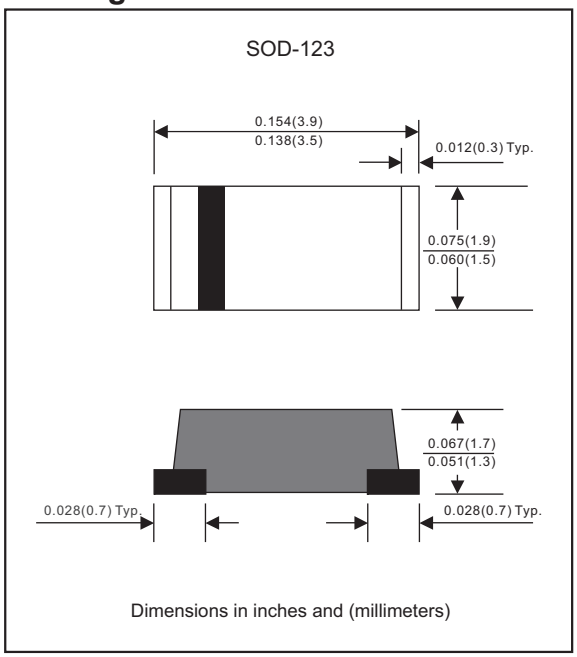
AS120-M THRU AS1200-M

1.0A Surface Mount Schottky Barrier Rectifiers - 20V-200V

Features

- 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
- Silicon epitaxial planar chip, metal silicon junction
- Lead-free parts meet RoHS requirements
- Suffix "-H" indicates Halogen free parts, ex. AS120-M-H

Package outline



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

Maximum ratings and Electrical characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_O			1.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			30	A
Reverse current	V_R = V_{RRM} T_J = 25°C	I_R			0.5	mA
	V_R = V_{RRM} T_J = 100°C				10	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		92		°C/W
	Junction to case	$R_{\theta JC}$		46		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		120		pF
Storage temperature		T_{STG}	-65		+175	°C

SYMBOLS	V_{RRM} *1 (V)	V_{RMS} *2 (V)	V_R *3 (V)	V_F *4 (V)	Operating temperature T_J, (°C)
AS120-M	20	14	20	0.50	-55 to +125
AS130-M	30	21	30		
AS140-M	40	28	40		
AS150-M	50	35	50	0.70	-55 to +150
AS160-M	60	42	60		
AS180-M	80	56	80	0.85	
AS1100-M	100	70	100		
AS1150-M	150	105	150	0.90	
AS1200-M	200	140	200	0.92	

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@I_F=1.0A

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Rating and characteristic curves (AS120-M THRU AS1200-M)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

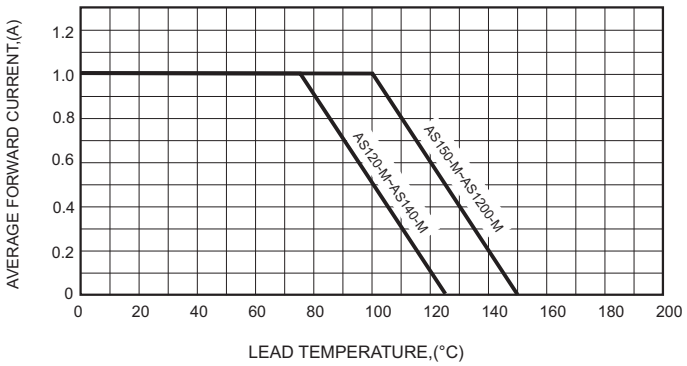


FIG.2-TYPICAL FORWARD CHARACTERISTICS

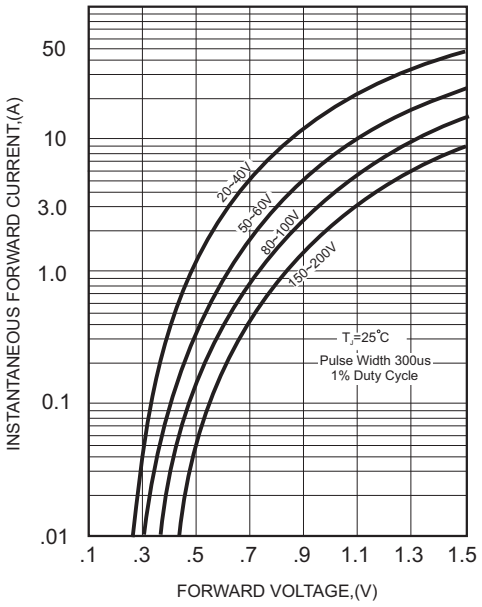


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

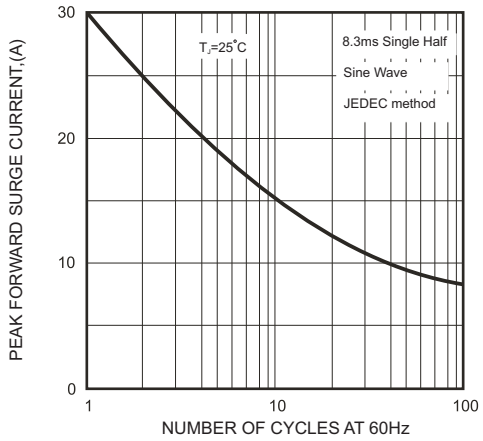


FIG.4-TYPICAL JUNCTION CAPACITANCE

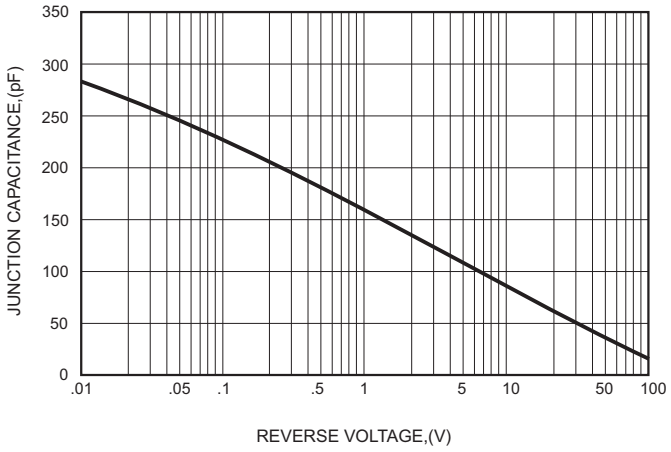
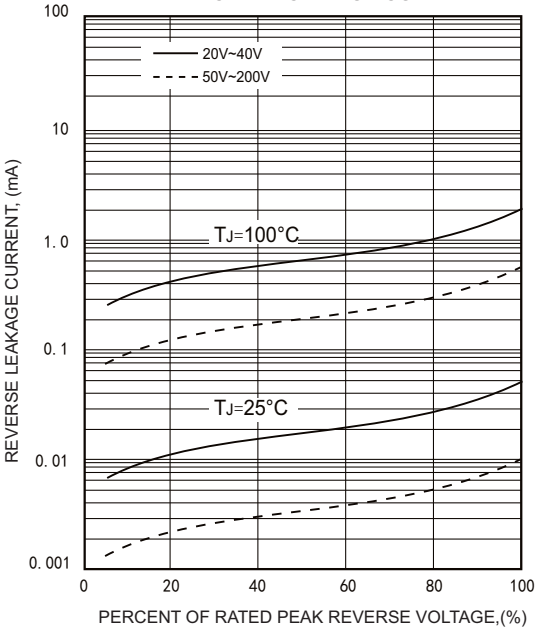


FIG.5 - TYPICAL REVERSE CHARACTERISTICS



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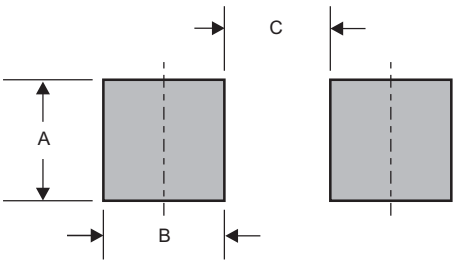
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
AS120-M	12
AS130-M	13
AS140-M	14
AS150-M	15
AS160-M	16
AS180-M	18
AS1100-M	10
AS1150-M	115
AS1200-M	120

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)