B120WS-F THRU B1100WS-F

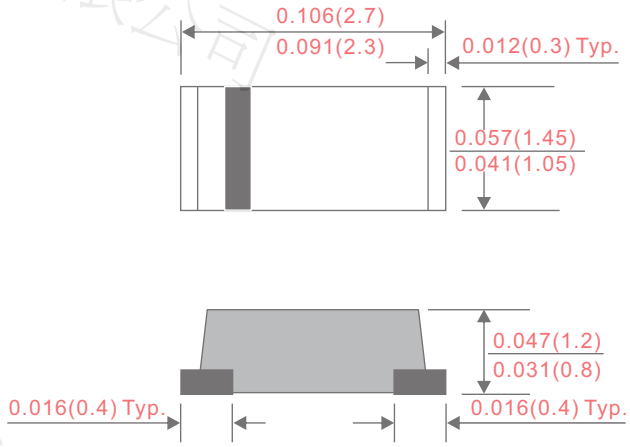
1 Amperes Surface Mount Schottky Barrier Rectifiers
VOLTAGE : 20 TO 100Volts

Features

- Low profile surface mounted application in order to optimize board space.
- 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.
- Suffix "G" indicates Halogen-free part, ex.B120WSG-F.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

Outline

SOD-323F



Dimensions in inches and (millimeters)

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-323F
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Weight : Approximated 0.008 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Parameter	Symbol	B120WS-F	B130WS-F	B140WS-F	B160WS-F	B1100WS-F	UNIT
Making code		12	13	14	16	10	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	60	100	V
Maximum RMS Voltage	V_{RMS}	14	21	28	42	70	
Maximum DC Blocking Voltage	V_{DC}	20	30	40	60	100	
Maximum Instantaneous Forward Voltage@1.0A, T_A =25°C	V_F	0.50			0.70	0.81	V
Operating Temperature	T_J	-50 ~ +125				-50 ~ +150	°C

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 superimposed on rate load (JEDEC method)	I_{FSM}			30	A
Reverse current	V_R = V_{RRM} T_A = 25°C	I_R			0.1	mA
	V_R = V_{RRM} T_A = 100°C				20	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		88		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		120		pF
Storage temperature		T_{STG}	-50		+150	°C

Document ID : DS-12K52
Issued Date : 2010/05/05
Revised Date : 2010/10/08
Revision : B

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Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

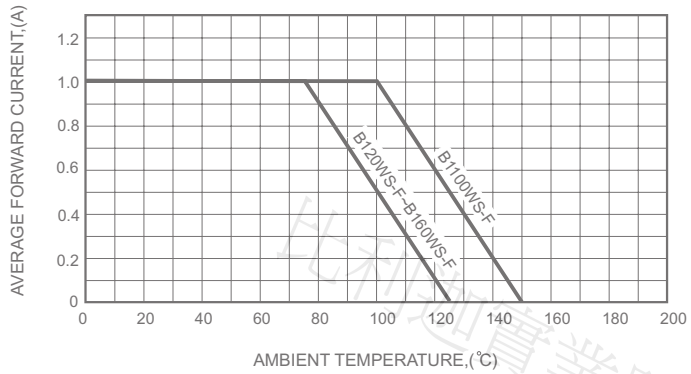


FIG.2-TYPICAL FORWARD CHARACTERISTICS

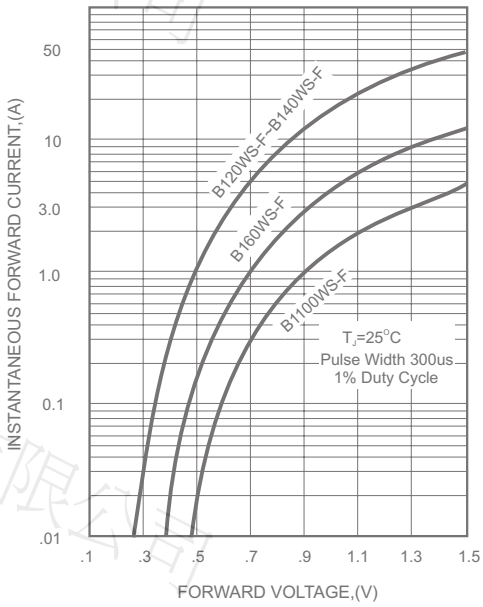


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

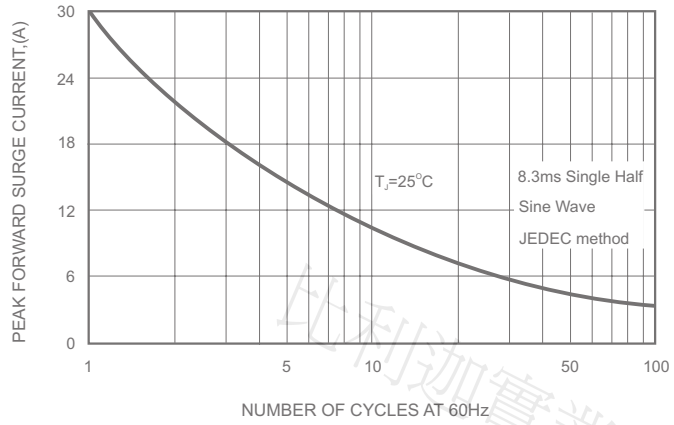


FIG.4-TYPICAL JUNCTION CAPACITANCE

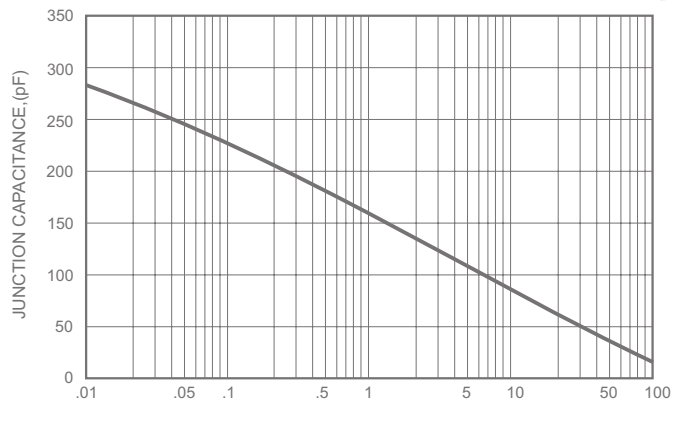
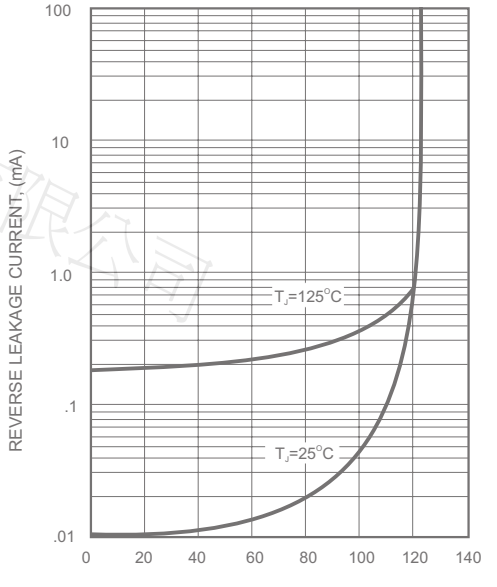


FIG.5 - TYPICAL REVERSE CHARACTERISTICS



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