



Data Sheet

Customer :

Product : Small Signal Schottky Diode-Standard

Part No.: B120W / B130W / B140W / B160W / B1100W

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VIKING TECH CORPORATION
光韻科技股份有限公司

No.70, Kuanfu N. Rad.,
Hsin Chu Industrial Park,
Hukou Hsiang, Hsin Chu Hsien,
303, Taiwan

TEL:886-3-5972931
FAX:886-3-5972935•886-3-5973494
E-mail:sales@viking.com.tw

VIKING TECH CORPORATION KAOHSIUNG BRANCH
光韻科技股份有限公司高雄分公司

No.248-3, Sin-Sheng Rd., Cian-Jhen Dist., Kaohsiung,
806, Taiwan

TEL:886-7-8217999
FAX:886-7-8228229
E-mail:sales@viking.com.tw

WUXI TMTEC CO., LTD.
無錫泰銘電子有限公司

No.1A,(Xixia Road),Machinery & Industry Park,
National Hi-Tech Industrial Development Zone of
Wuxi, Wuxi, Jiangsu Province, China
Zip Code:214028

TEL:86-510-85203339
FAX:86-510-85203667•86-510-85203977
E-mail:wuxisales@tmtec.com.tw

Produced by (QC)	Checked (QC)	Approved by (QC)	Prepared by (Sales)	Accepted by (Customer)
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Kris	Ann	J.C Liu		



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 over voltage protection
- Ultra high-speed switching
- Silicon epitaxial planar chip, metal silicon junction
- Lead-free parts meet environmental standards of MIL-STD-19500/228
- Halogen free



■ Mechanical Data

Epoxy : UL94-V0 rated flame retardant

Case : Molded Plastic, SOD-123

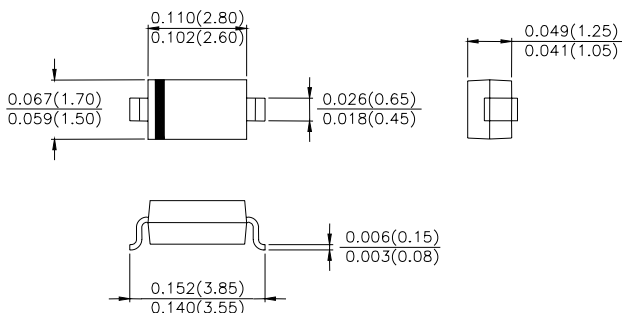
Terminals : Solder plated, Solderable per MIL-STD-750, Method 2026

Polarity : Indicated by cathode band

Weight : 0.004 ounce, 0.010 gram

Packaging : 2.5Kpcs per 7" reel or 3Kpcs per 7" reel

■ Package Dimensions in inches(millimeters): SOD-123



■ 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	B120W	B130W	B140W	B160W	B1100W	Unit
Marking Code		SJ	SK	SL	SM	SN	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	60	100	V
Maximum RMS Voltage	V_{RMS}	14	21	28	42	70	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	60	100	V
Maximum Instantaneous Forward Voltage@1.0A, $T_A=25^\circ\text{C}$	V_F	0.52		0.55	0.75	0.86	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}			5.5	A
Reverse Current	$V_R=V_{RRM}, T_A=25^\circ\text{C}$	I_R			0.1	mA
	$V_R=V_{RRM}, T_A=100^\circ\text{C}$				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

Rated and Characteristic Curve

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

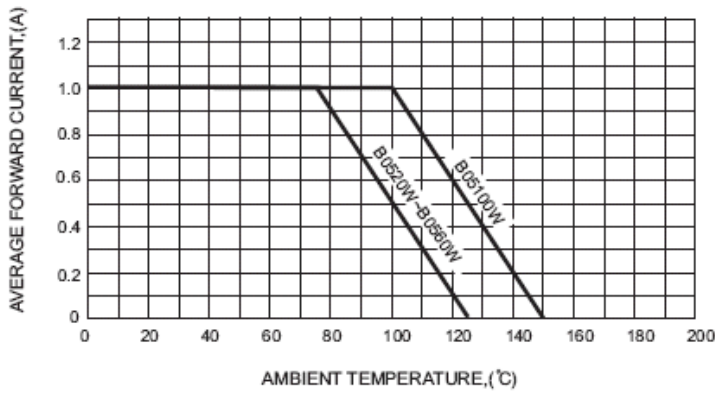


FIG.2-TYPICAL FORWARD CHARACTERISTICS

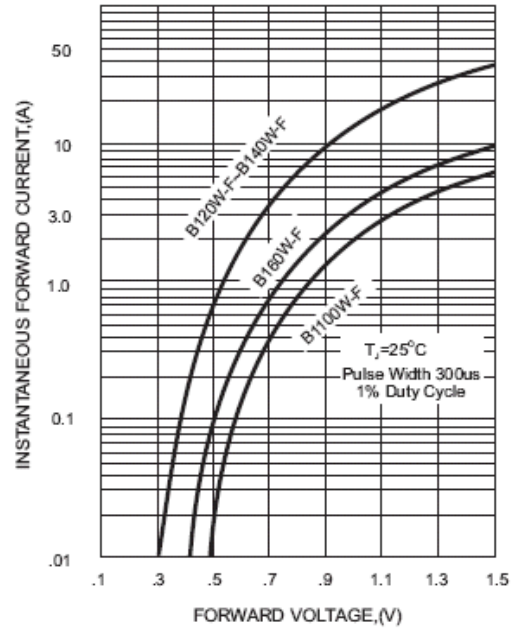


FIG.3-TYPICAL JUNCTION CAPACITANCE

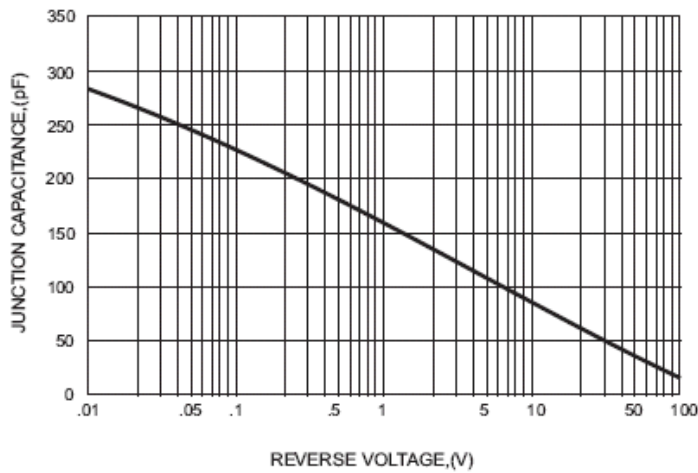


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

