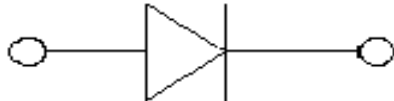


Schottky Rectifier



Features

- V_R 20V/30V/40V
- I_{FAV} 0.5A
- For Surface Voltage and Extremely Low Thermal Resistance
- Moisture Sensitivity Level 1

Mechanical Data

- **Package:** SOD123
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end
- **Marking:**

MBR0520	R2
MBR0530	R3
MBR0540	R4

Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Conditions	VALUE	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	V		MBR0520	20
				MBR0530	30
				MBR0540	40
DC Blocking Voltage	V_R	V	$I_R=0.2mA$	MBR0520	20
				MBR0530	30
				MBR0540	40
Peak forward surge current	I_{FSM}	A	8.3ms, half sine	5.5	
Average forward current	I_{FAV}	A		0.5	
Power dissipation	P_{tot}	mW		410	
Thermal Resistance from junction to ambient(Note)	$R_{\theta JA}$	°C/W		244	
Maximum junction temperature	T_j	°C		-55 to +125	
Storage temperature range	T_{stg}	°C		-55 to +125	

Note: Device mounted on PCB

Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBR0520	F2	Approximate 0.011	3000	30000	120000	7" reel
MBR0530	F2	Approximate 0.011	3000	30000	120000	7" reel
MBR0540	F2	Approximate 0.011	3000	30000	120000	7" reel

MBR0520 THRU MBR0540

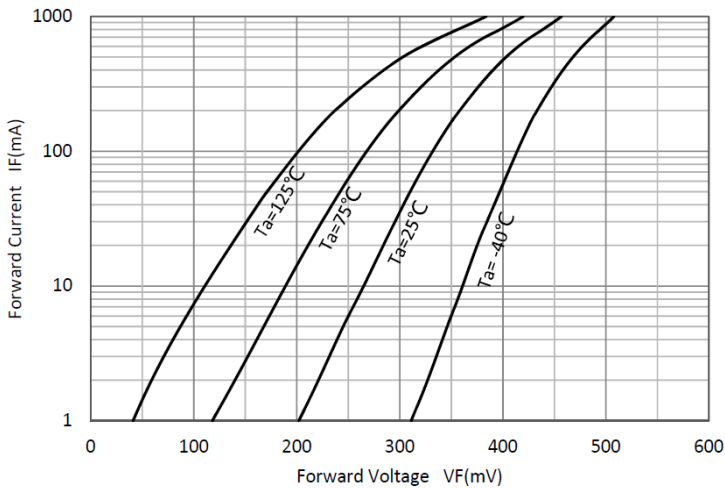
■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Value	
Breakdown Voltage	V _R	V	I _R =0.2mA	MBR0520	20
				MBR0530	30
				MBR0540	40
Forward Voltage	V _F	V	I _F =0.5A	MBR0520	0.45
				MBR0530	0.55
				MBR0540	0.55
Reverse Leakage Current (MAX)	I _R	mA	V _R =20V	MBR0520	0.2
			V _R =30V	MBR0530	
			V _R =40V	MBR0540	
Typical Junction Capacitance	C _J	pF	V _R =4V, f=1MHz	40	

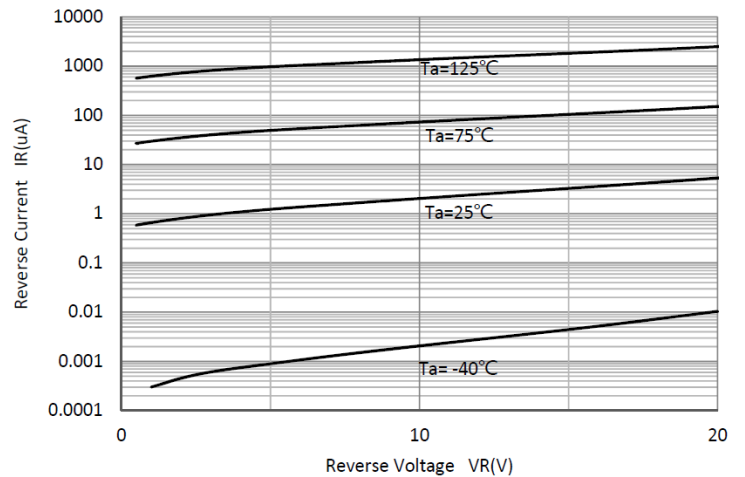
■ Characteristics (Typical)

MBR0520

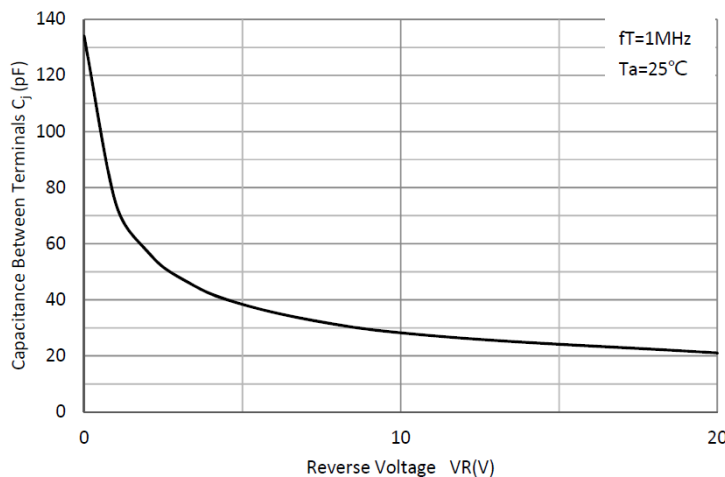
VF-IF



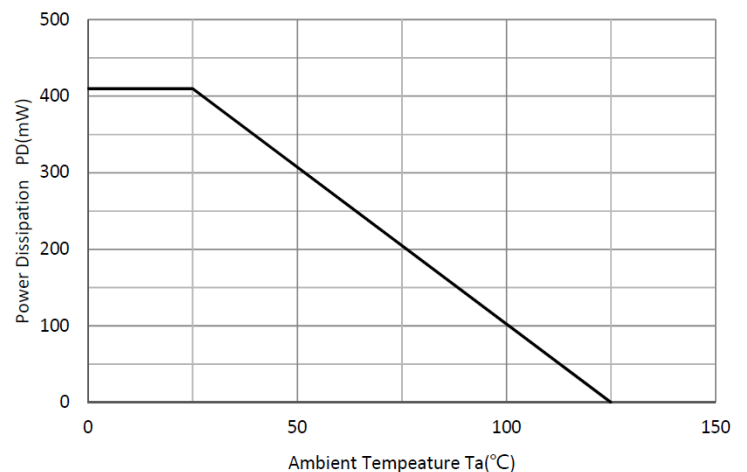
IR-VR



Cj-VR



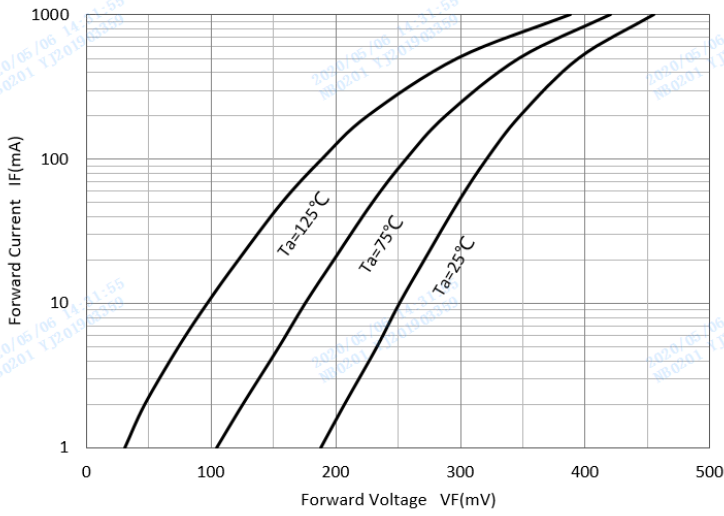
Power Derating Curve



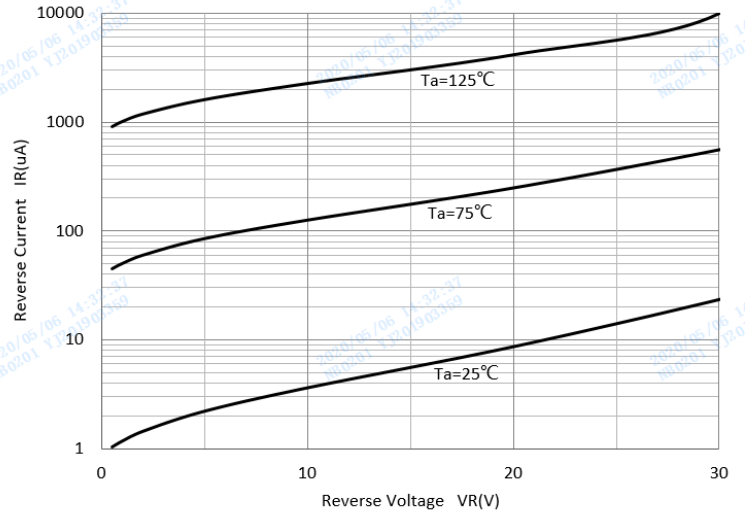
MBR0520 THRU MBR0540

MBR0530

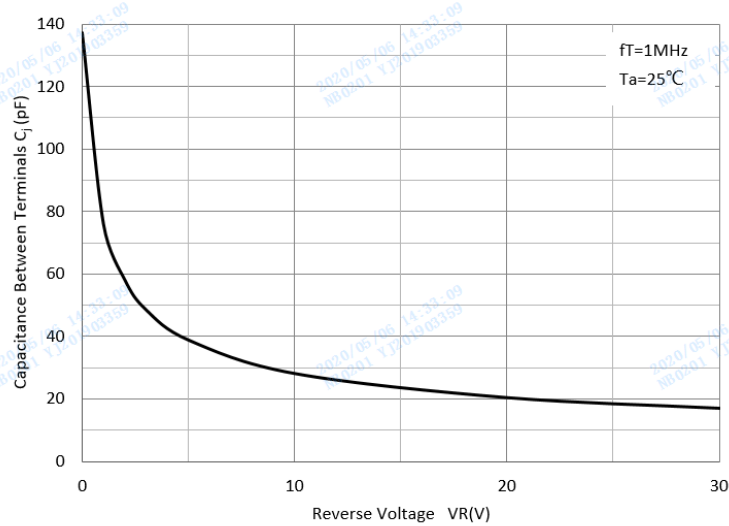
VF-IF



IR-VR

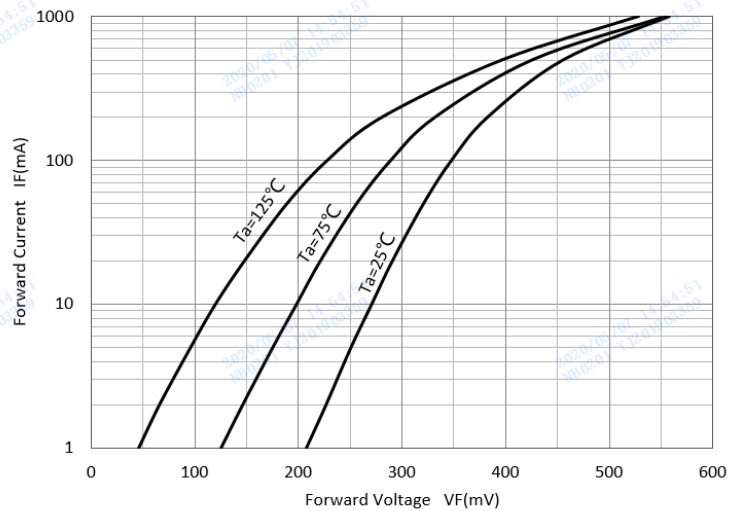


Cj-VR

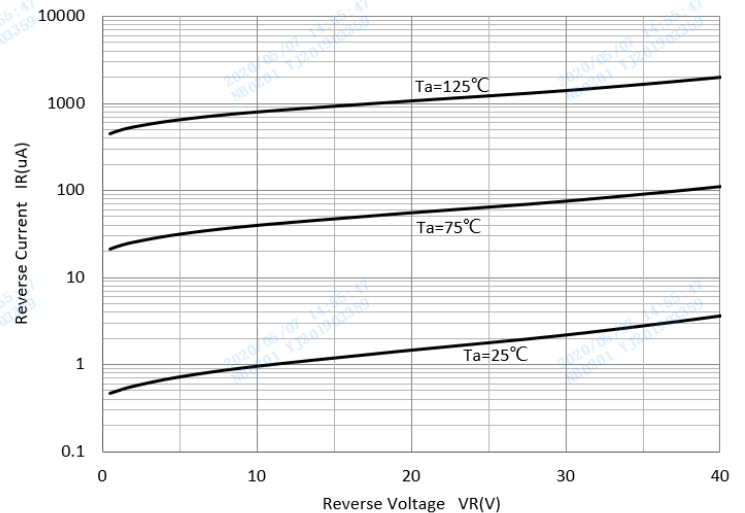


MBR0540

VF-IF

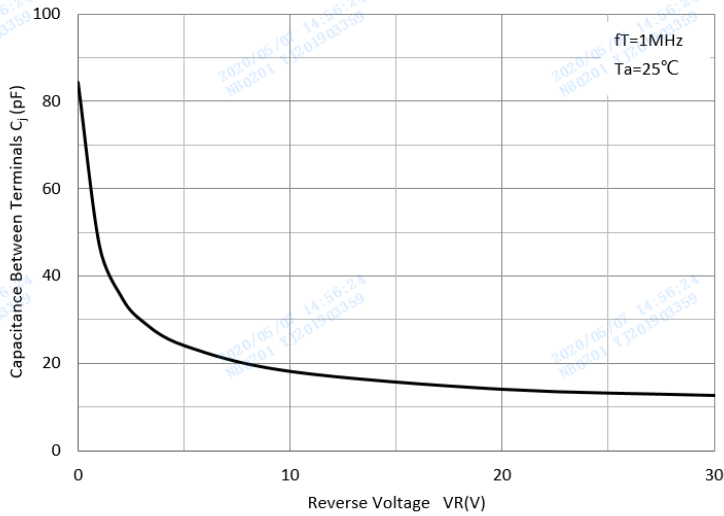


IR-VR



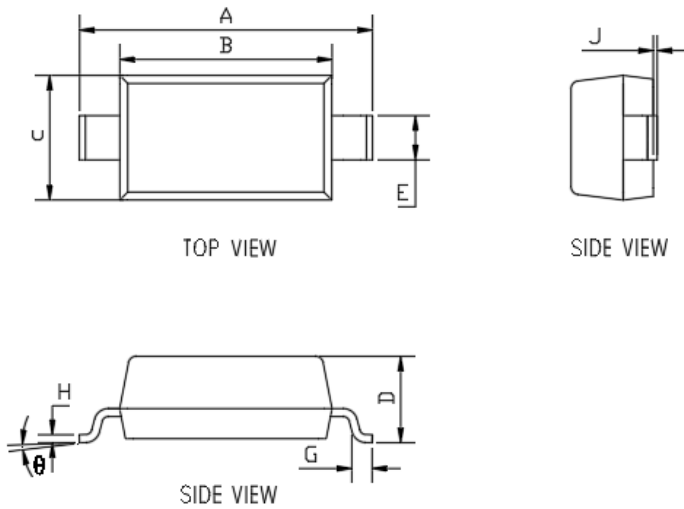
MBR0520 THRU MBR0540

Cj-VR



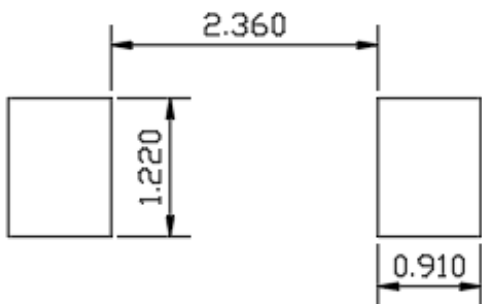
■ Outline Dimensions

SOD-123



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.140	0.152	3.550	3.850
B	0.100	0.112	2.550	2.850
C	0.055	0.071	1.400	1.800
D	0.037	0.053	0.950	1.350
E	0.020	0.028	0.510	0.710
G	0.006	0.018	0.150	0.450
H	0.003	0.010	0.080	0.250
J	0.000	0.006	0.000	0.150
θ	0	8°	0	8°

■ Soldering Footprint



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

Disclaimer

The information presented in this document is for reference only. Shanghai Sunco Electronics Co., Ltd reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Russiansunco or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.russiansunco.com](http://www.russiansunco.com) , or consult your nearest Russiansunco's sales office for further assistance.