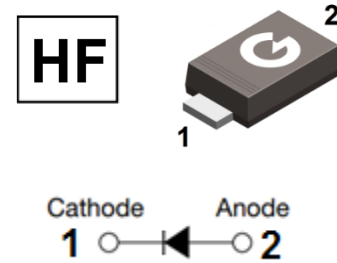


Schottky Barrier Rectifier

MBRXT120 - MBRXT140

Features

- Metal silicon junction, majority carrier conduction
- High forward surge current capability
- Low forward voltage drop
- High temperature soldering guaranteed: 260°C @ 10s
- Robust guarding for over voltage protection
- RoHS compliant with Halogen-free



Mechanical Data

- Case: SOD-123T molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Matte tin plated leads; solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes cathode end

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	MBRXT120	MBRXT130	MBRXT140	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	20	30	40	V
RMS Reverse Voltage	V _{RMS}	14	21	28	V
DC Blocking Voltage	V _{DC}	20	30	40	V
Average Forward Output Current	I _{F_AV}	1.0			A
Peak Forward Surge Current, 8.3ms Single Half Sine wave	I _{FSM}	35			A

Thermal Characteristics

Parameter	Symbol	MBRXT120	MBRXT130	MBRXT140	Unit
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	110			°C/W
Thermal Resistance Junction-to-Case ^{*1}	R _{θJC}	23			°C/W
Thermal Resistance Junction-to-Lead ^{*1}	R _{θJL}	15			°C/W
Operating Junction Temperature Range	T _J	-55 ~ +125			°C
Storage Temperature Range	T _{STG}	-55 ~ +150			°C

Schottky Barrier Rectifier

MBRXT120 - MBRXT140

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 100\mu\text{A}$, MBRXT120	20	-	-	V
		$I_R = 100\mu\text{A}$, MBRXT130	30	-	-	V
		$I_R = 100\mu\text{A}$, MBRXT140	40	-	-	V
Forward Voltage *2	V_F	$I_F = 1\text{A}$	-	-	0.5	V
Maximum Peak Reverse Current *3	I_R	Rated V_R , $T_J = 25^\circ\text{C}$	-	-	100	μA
		Rated V_R , $T_J = 100^\circ\text{C}$	-	-	10	mA

Notes:

1. The data tested by surface mounted on p.c.b. with 10 mm x 20 mm x 0.1 mm copper pad area
2. The data tested by pulsed, pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 1\%$
3. The data tested by pulsed, pulse width $\leq 40\text{ms}$

Schottky Barrier Rectifier

MBRXT120 - MBRXT140

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

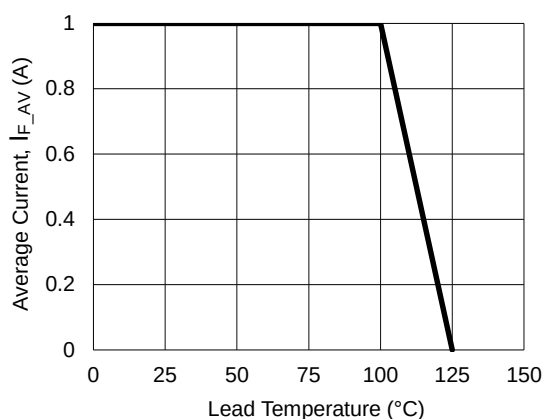


Fig.2 Surge Current Derating Curve

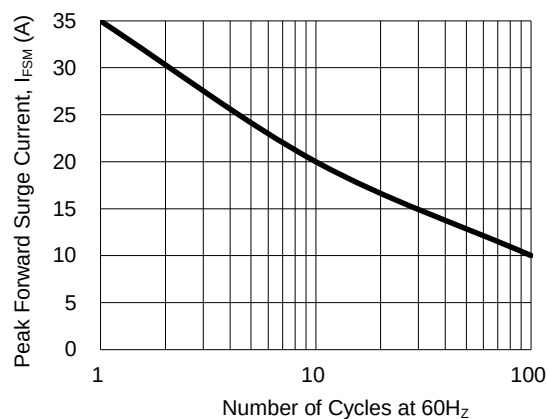


Fig.3 Typical Forward Voltage Characteristics

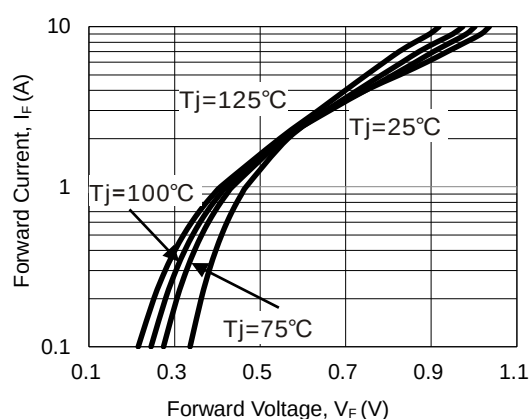
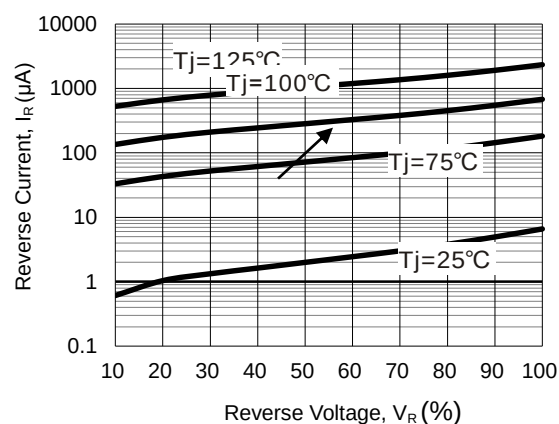


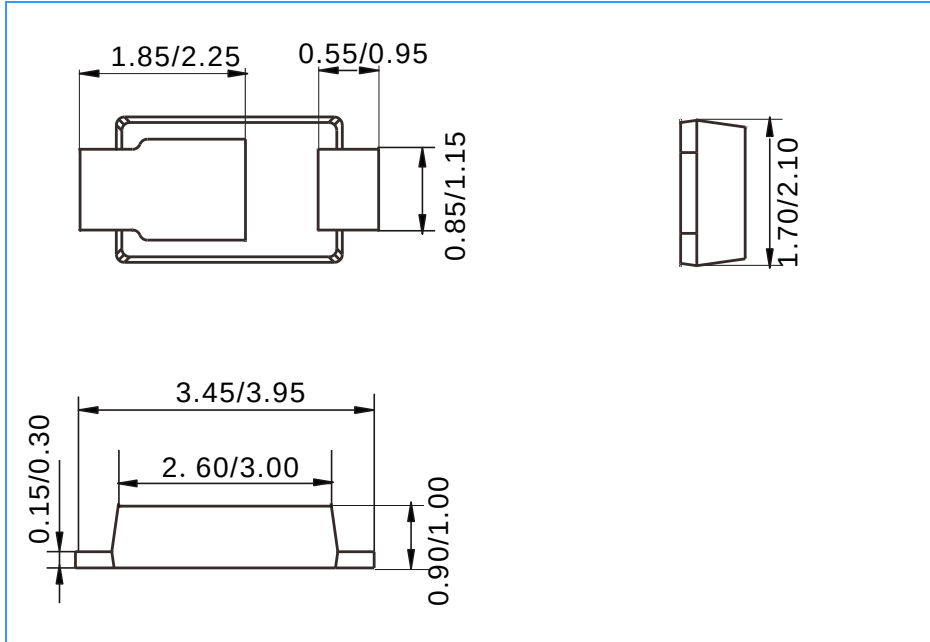
Fig.4 Typical Reverse Characteristics



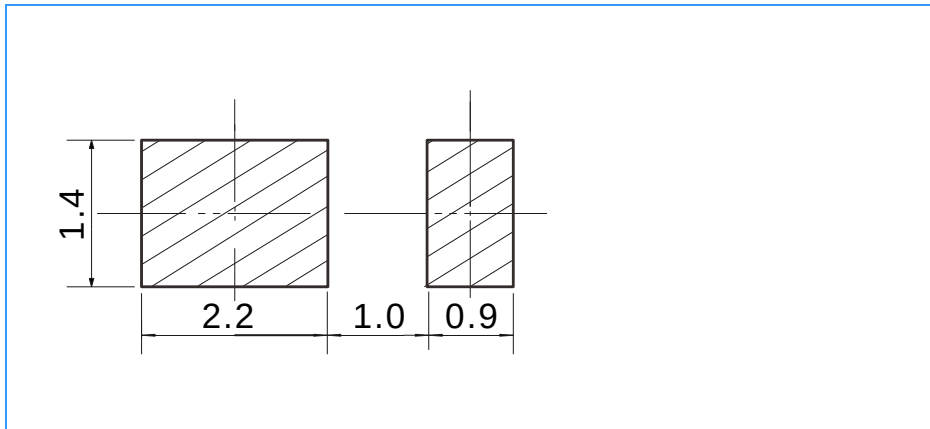
Schottky Barrier Rectifier

MBRXT120 - MBRXT140

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
MBRXT120	T12	SOD-123T	10 kpcs / Tape & Reel
MBRXT130	T13	SOD-123T	10 kpcs / Tape & Reel
MBRXT140	T14	SOD-123T	10 kpcs / Tape & Reel