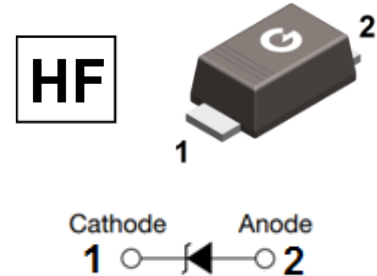


Schottky Barrier Rectifier

MBRX160

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-123FL 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	MBRX160	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	60	V
RMS Reverse Voltage	V _{RMS}	42	V
DC Blocking Voltage	V _{DC}	60	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	MBRX160	Unit
Typical Thermal Resistance *1	R _{θJA}	85	°C/W
	R _{θJC}	23	
	R _{θJL}	15	
Operating Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Note *1: Device mounted on p.c.b. with 10 mm x 20 mm x 0.1 mm copper pad area

Schottky Barrier Rectifier

MBRX160

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

Parameter	Symbol	Test Conditions		Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 100\mu\text{A}$		60	-	-	V
Instantaneous Forward Voltage ^{*1}	V_F	$I_F = 1.0\text{A}$	@ $T_A = 25^\circ\text{C}$	-	-	0.65	V
Reverse Current ^{*2}	I_R	Rated V_R	@ $T_J = 25^\circ\text{C}$	-	-	100	μA
			@ $T_J = 100^\circ\text{C}$	-	-	10	mA
Diode capacitance	C_J	$V_R = 4\text{V}, f = 1\text{MHz}$		-	45	-	pF

Note^{*1}: Pulse test: 300us pulse width, 1 % duty cycle

Note^{*2}: Pulse test: Pulse width 40ms

Schottky Barrier Rectifier

MBRX160

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

Fig.1 Forward Current Derating Curve

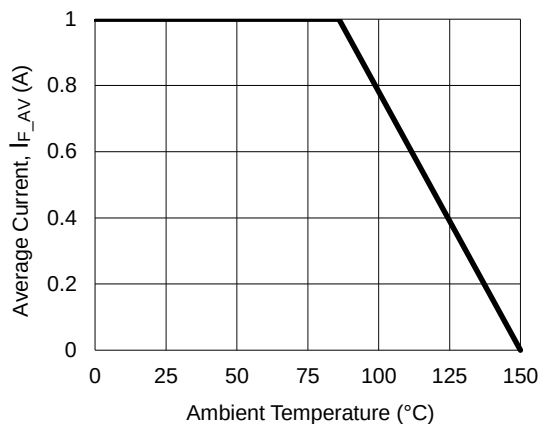


Fig.2 Surge Current Derating Curve

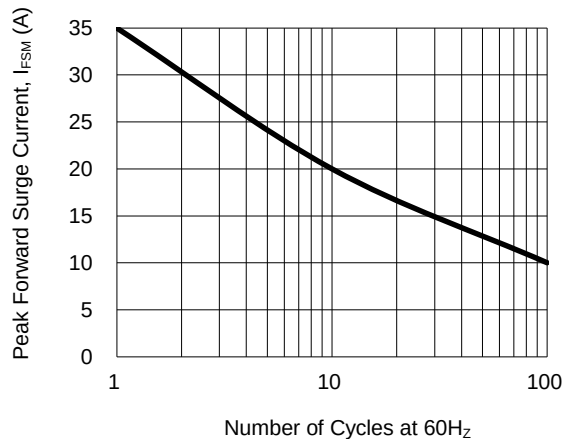


Fig.3 Typical Forward Voltage Characteristics

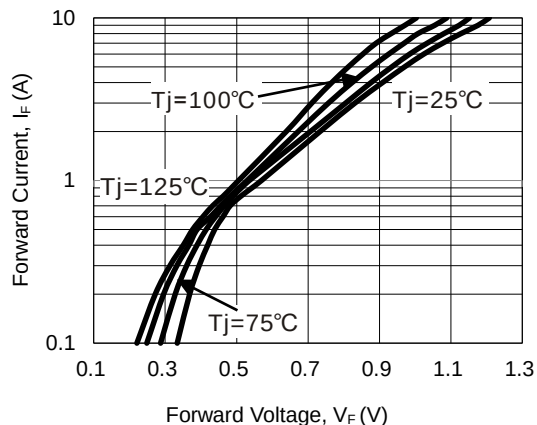


Fig.4 Typical Reverse Characteristics

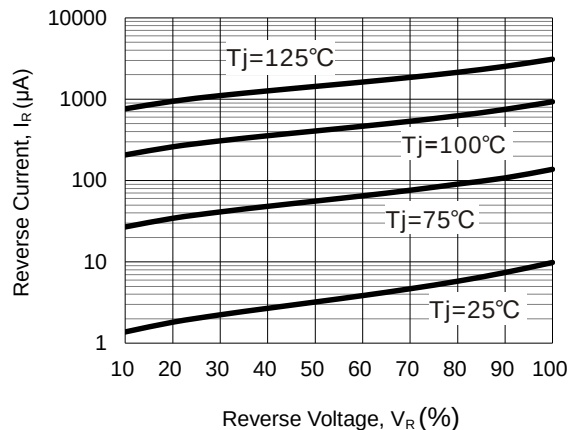
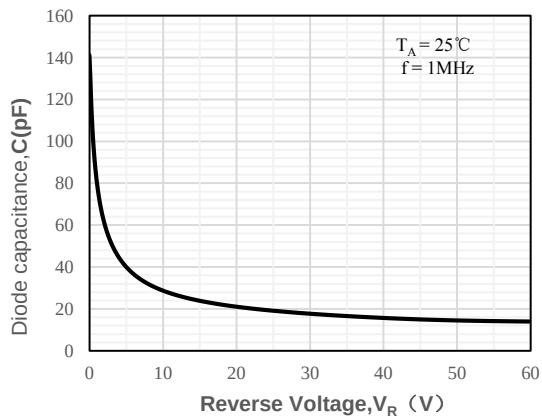


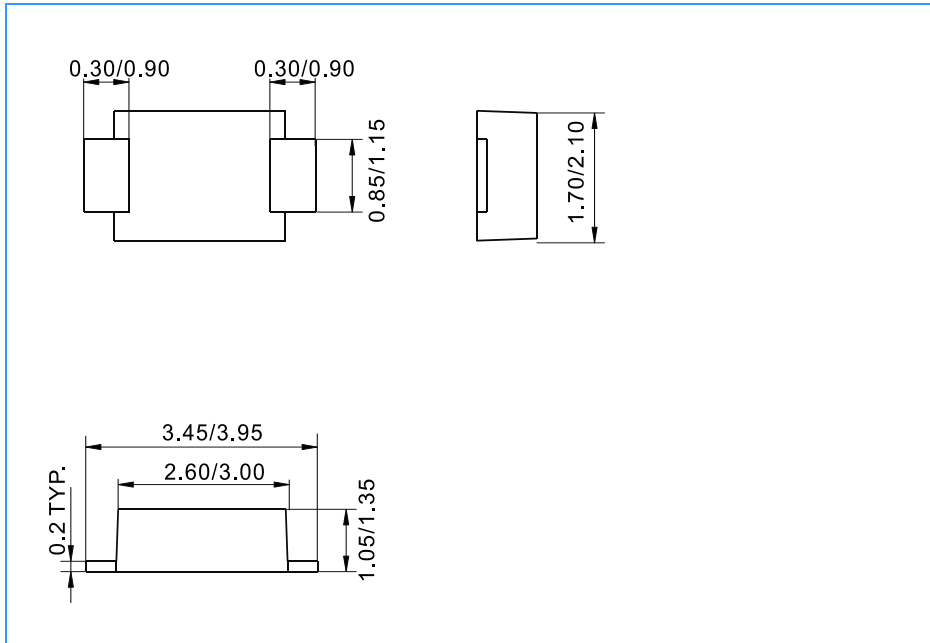
Fig.5 Capacitance vs. Reverse Voltage



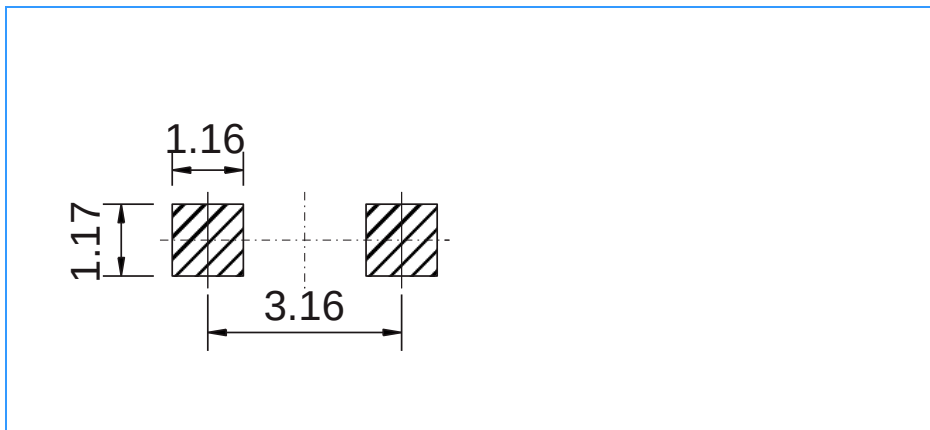
Schottky Barrier Rectifier

MBRX160

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
MBRX160	S6	SOD-123FL	10000 pcs / Tape & Reel