



DESCRIPTION

The RB160M-30/40/60/90 is available in SOD-123FL Package

FEATURES

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Available in SOD-123FL Package

ORDERING INFORMATION

Package Type	Part Number
SOD-123FL	RB160M-30
	RB160M-40
	RB160M-60
	RB160M-90
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

MECHANICAL DATA

Case: SOD-123FL

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

Approx. Weight: 15mg 0.00048oz

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

Ratings at 25 ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load derate by 20 %

Parameter	Symbol	RB160M-30	RB160M-40	RB160M-60	RB160M-90	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	30	40	60	90	V
Maximum RMS Voltage	V_{RMS}	21	28	42	63	V
Maximum DC Blocking Voltage	V_{DC}	30	40	60	90	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1.0				A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	40			30	A
Max Instantaneous Forward Voltage at 1A	V_F	0.55		0.70	0.85	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	$T_A=25^{\circ}C$ 0.3			0.2	mA
		$T_A=100^{\circ}C$ 10			5	
Typical Junction Capacitance ^{NOTE1}	C_j	110	80			pF
Typical Thermal Resistance ^{NOTE2}	$R_{\theta JA}$	115				$^{\circ}C/W$
Operating Junction Temperature Range	T_J	-55-+125				$^{\circ}C$
Storage Temperature Range	T_{STG}	-55-+150				$^{\circ}C$

NOTE1: Measured at 1MHz and applied reverse voltage of 4 V D.C.

NOTE2: P.C.B. mounted with 0.2 x 0.2" (5 x 5 mm) copper pad areas.



TYPICAL CHARACTERISTICS

Figure 1. Forward Current Dreading Curve

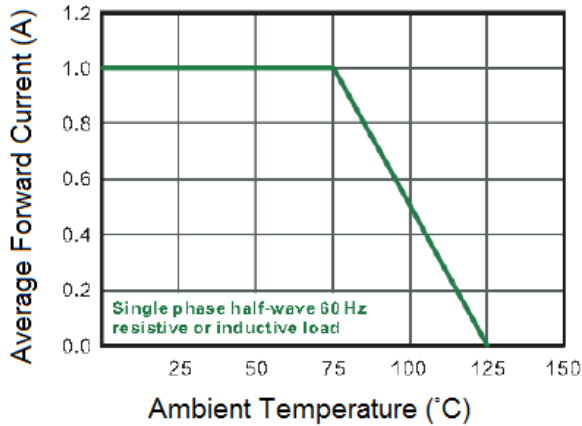


Figure 2. Typical Reverse Characteristics

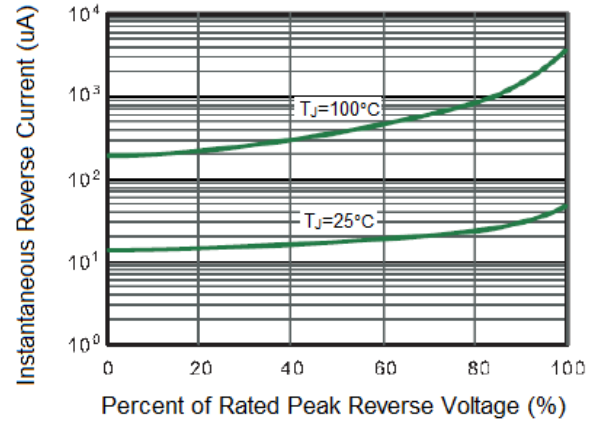


Figure 3. Typical Forward Characteristics

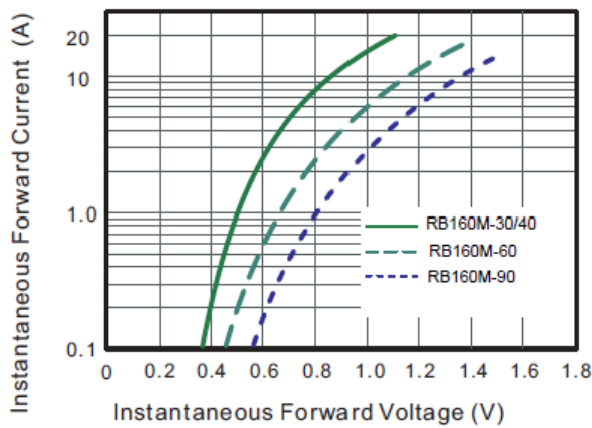


Figure 4. Typical Junction Capacitance

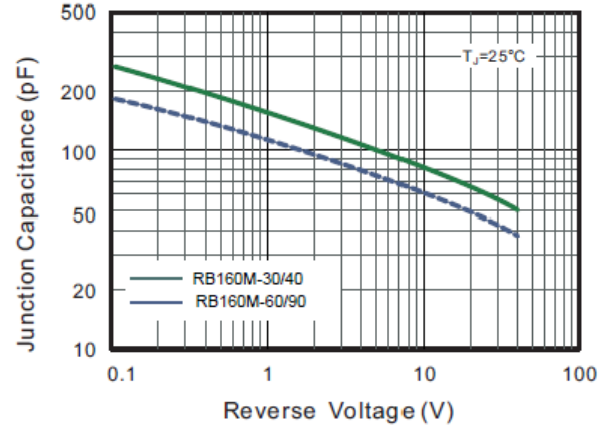


Figure 5. Maximum Non-Repetitive Peak Forward Surge Current

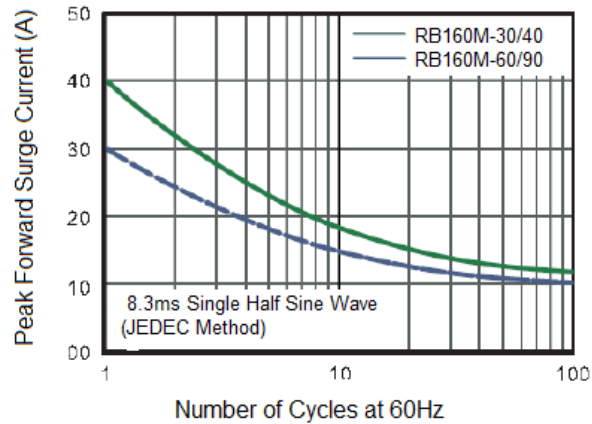
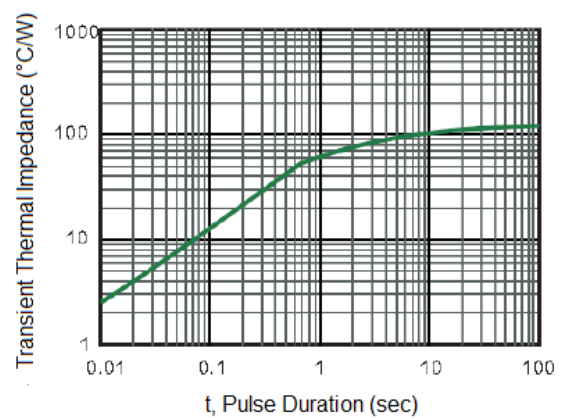


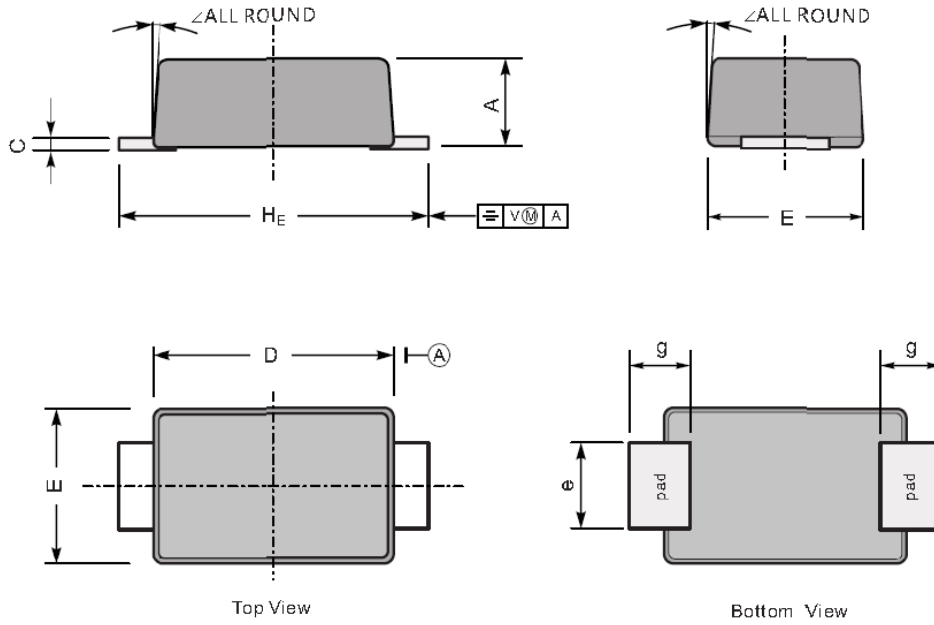
Figure 6. Typical Transient Thermal Impedance



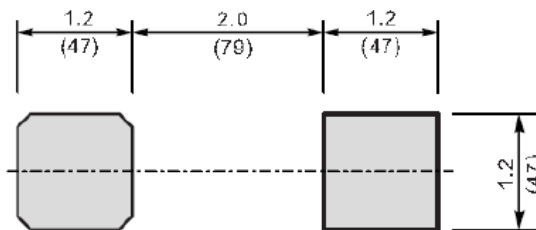


PACKAGE INFORMATION

Dimension in SOD-123FL Package



The recommended mounting pad size



Unit: $\frac{\text{mm}}{\{\text{mil}\}}$

UNIT		A	C	D	E	e	g	H_E	\angle
mm	Max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	Min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	Max	43	7.9	114	75	43	35	150	
	Min	35	4.7	102	67	31	28	138	



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