

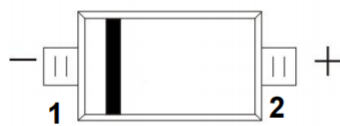
PMEG4002EB

Low Vf MEGA Schottky barrier rectifier

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Features

- Multilayer Metal -Silicon Potential Structure
- High Current Capability, High Efficiency
- High Junction Temperature Capability
- Low Leakage Current
- RoHs Product



SOD-523

Applications

- Low current rectification
- Reverse polarity protection
- Switch Mode Power Supply (SMPS)
- High efficiency DC-to-DC conversion
- Low power consumption applications



Absolute Maximum Ratings

PARAMETER	SYMBOL	VALUE	UNIT
Peak reverse voltage	VR	40	V
Average forward rectified current	IF(AV)	0.2	A
Non-repetitive Peak Forward Surge Current @t=8.3ms Half-sine wave	IFSM	1.0	A
Power Dissipation (1)	PD	275	mW
Junction Temperature	Tj	150	°C
Storage temperature range	TSTG	-55 ~+150	°C
Typical thermal resistance	RθJA	455	°C /W

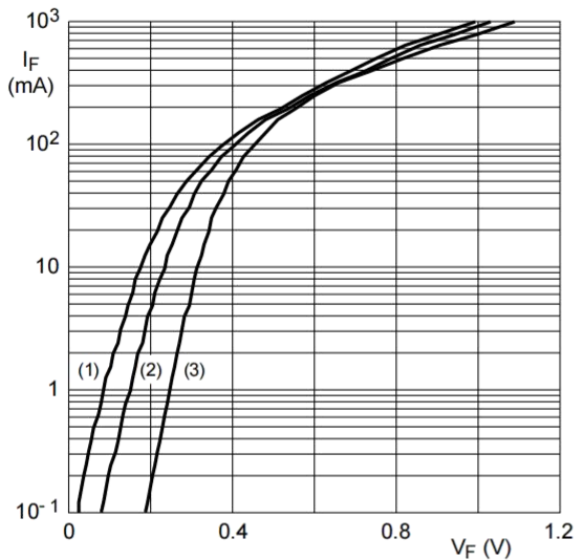
Note:1,Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse current	IR	VR=25V (2)	--	--	0.5	uA
Forward voltage	VF	IF=0.1mA (2)	--	190	220	mV
		IF=1mA (2)	--	250	290	mV
		IF=10mA (2)	--	320	360	mV
		IF=100mA (2)	--	440	500	mV
		IF=200mA (2)	--	520	600	mV
Total Capacitance	CT	VR = 0V, f = 1 MHz	--	20	--	pF

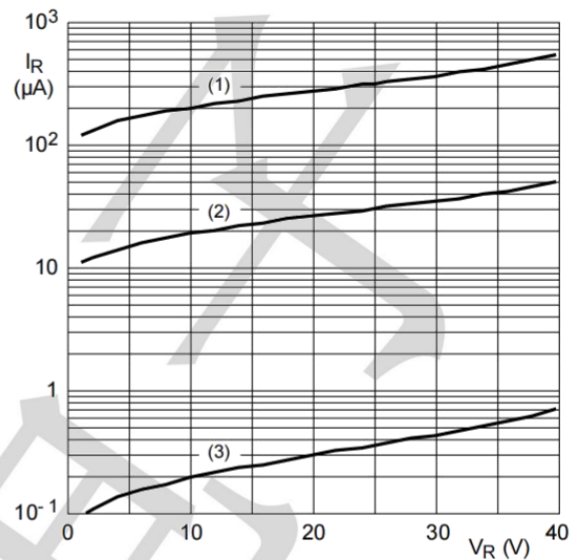
Note:2,ulsed test: tp ≤ 300 μs; δ ≤ 0.02

Typical Electrical Characteristic Curves



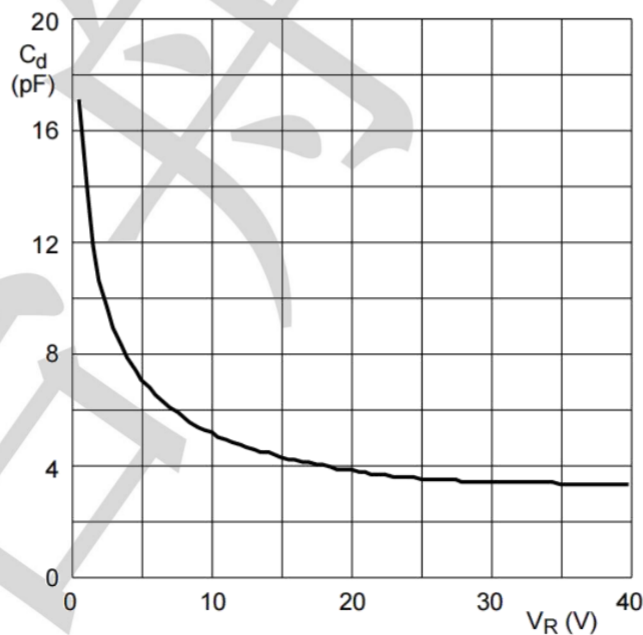
- (1) $T_{amb} = 125^\circ\text{C}$
- (2) $T_{amb} = 85^\circ\text{C}$
- (3) $T_{amb} = 25^\circ\text{C}$

Forward current as a function of forward voltage; typical values



- (1) $T_{amb} = 125^\circ\text{C}$
- (2) $T_{amb} = 85^\circ\text{C}$
- (3) $T_{amb} = 25^\circ\text{C}$

Reverse current as a function of reverse voltage; typical values

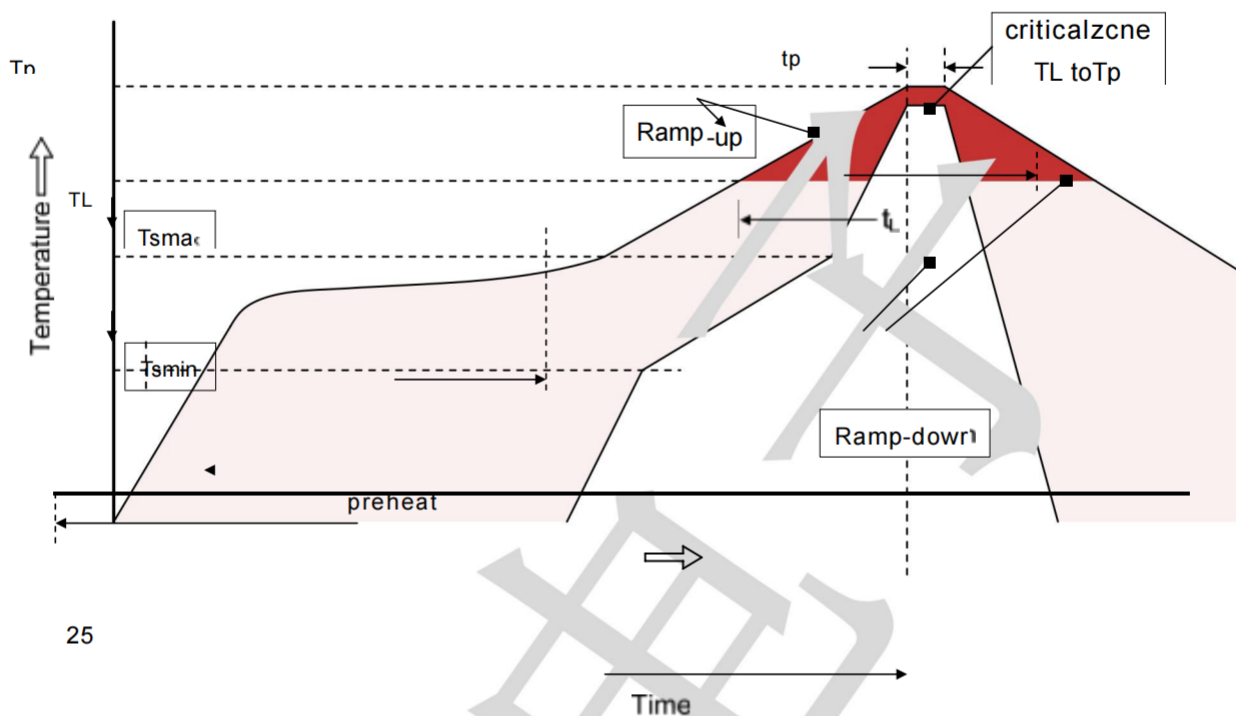


$f = 1\text{ MHz}$; $T_{amb} = 25^\circ\text{C}$

Diode capacitance as a function of reverse voltage; typical values

Recommended Soldering Conditions

Reflow Soldering



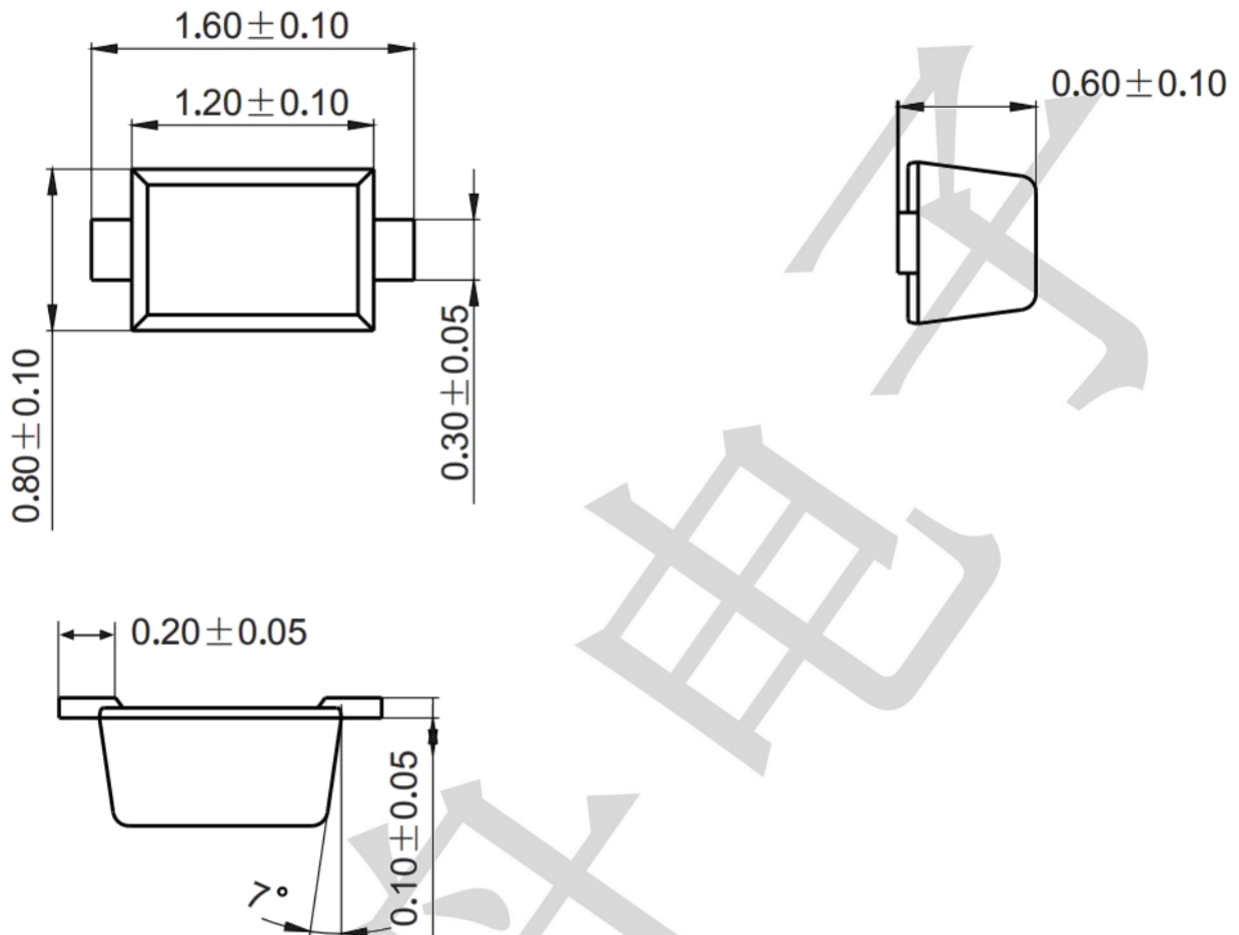
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Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min (T_{Smin})	150°C
-Temperature Max (T_{Smax})	200°C
-Time (min to max) (ts)	60-180 seconds
T_{Smax} to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

Package Outline Dimensions (unit: mm)

SOD-523



Mounting Pad Layout (unit: mm)

