TECH PUBLIC
台舟电子

TPB05A20-323
Schottky Barrier Rectifiers

WWW.TECHPUBLIC.COM

Features

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

Applications

- Surface mount schottky barrier rectifier
- Buck and Boost dc−dc Converters
- Low Voltage High Frequency Switching Power Supply
- Low Voltage High Frequency Invers Circuit
- Low Voltage Continued Circuit and Protection Circuit



SOD-323



Absolute Maximum Ratings

PARAMETER	SYMBOL	UNIT	VALUE
Maximum repetitive peak reverse voltage	VRRM	**V**	20
Maximum RMSvoltage	VRMS	**V**	14
Maximum DCblockingvoltage	VDC	**V**	20
Maximum averageforwardrectifiedcurrent	$I_{F(AV)}$	**A**	0.5
Non-repetitive Peak Forward Surge Current @t=8.3ms Half-sine wave	IFSM	**A**	5.5
Power Dissipation	PD	**mW**	200
Junction Temperature	Tj	℃	-40 ~+125
Storage temperature range	TSTG	℃	-55 ~+150
Typical thermal resistance	$R_{\theta JA}$	℃ **/W**	500

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse current	I_R	V_R=20V	--	--	500	**uA**
		V_R=15V	--	--	100	**uA**
		V_R=10V	--	--	70	**uA**
Forward voltage	V_F	I_F=100mA	--	--	0.37	**V**
		I_F=500mA	--	--	0.43	**V**
Total Capacitance	C_T	VR = 0V, f = 1 MHz	--	--	170	**pF**
Reverse recovery time	Trr	IF=IR=200mA ,Irr=0.1×IR RL =100Ω	--	10	--	**nS**

Typical Electrical Characteristic Curves

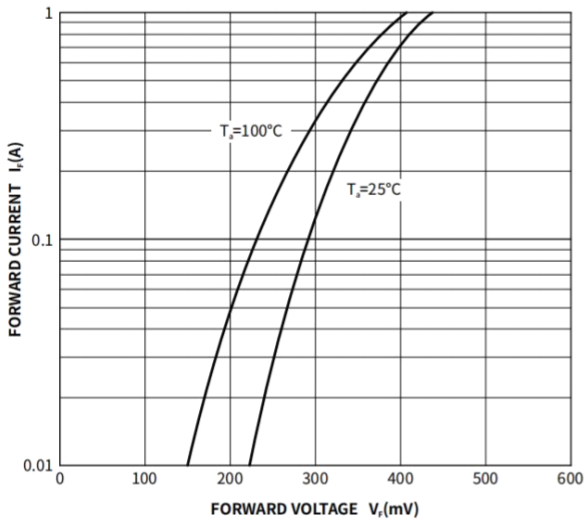


Fig.1 Typical Instaneous Forward Characteristics

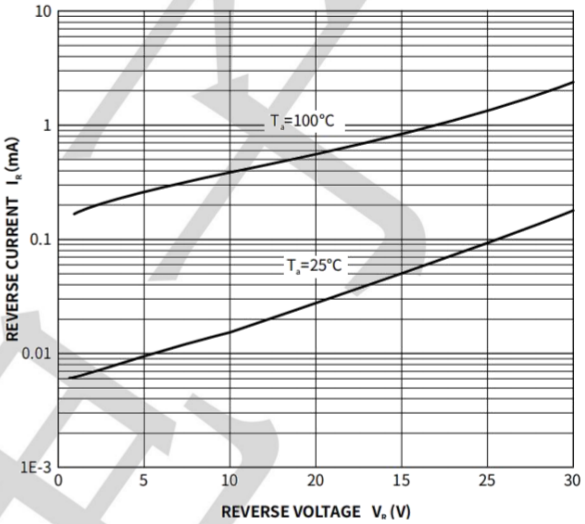


Fig.2 Typical Reverse Characteristics

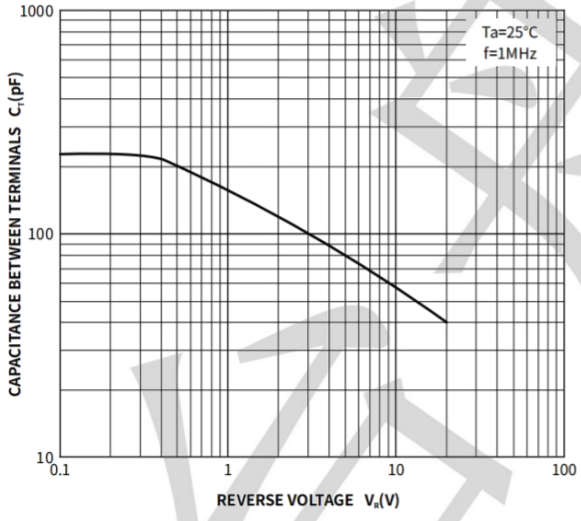


Fig.3 Typical Junction Capacitance

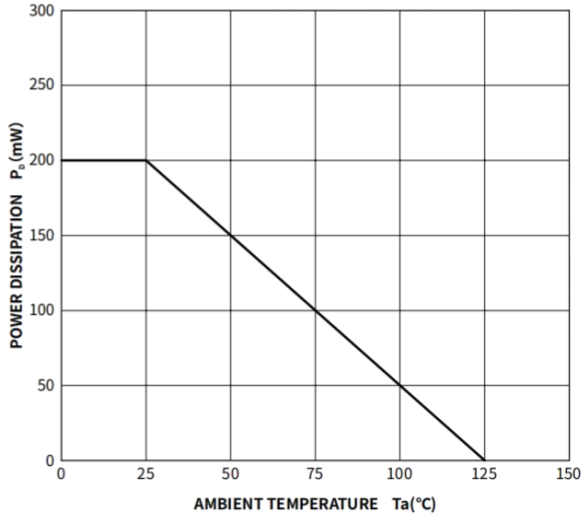
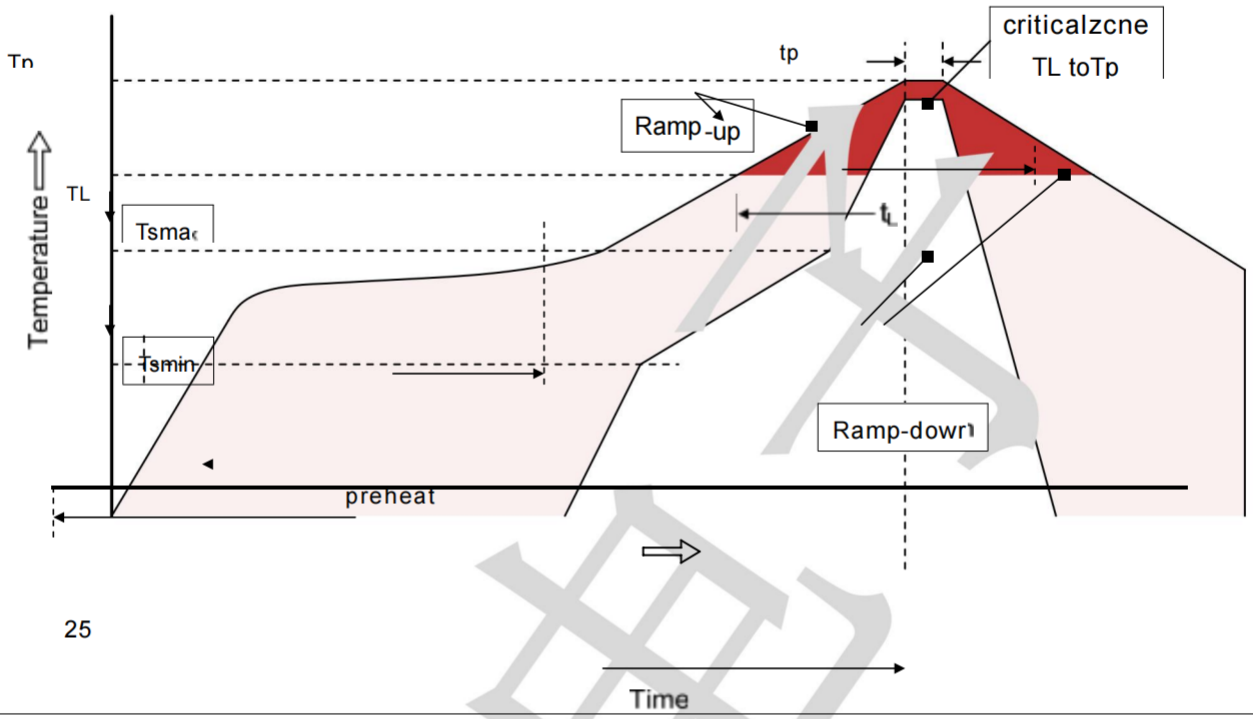


Fig.4 Power Derating Curve

Recommended Soldering Conditions

Reflow Soldering

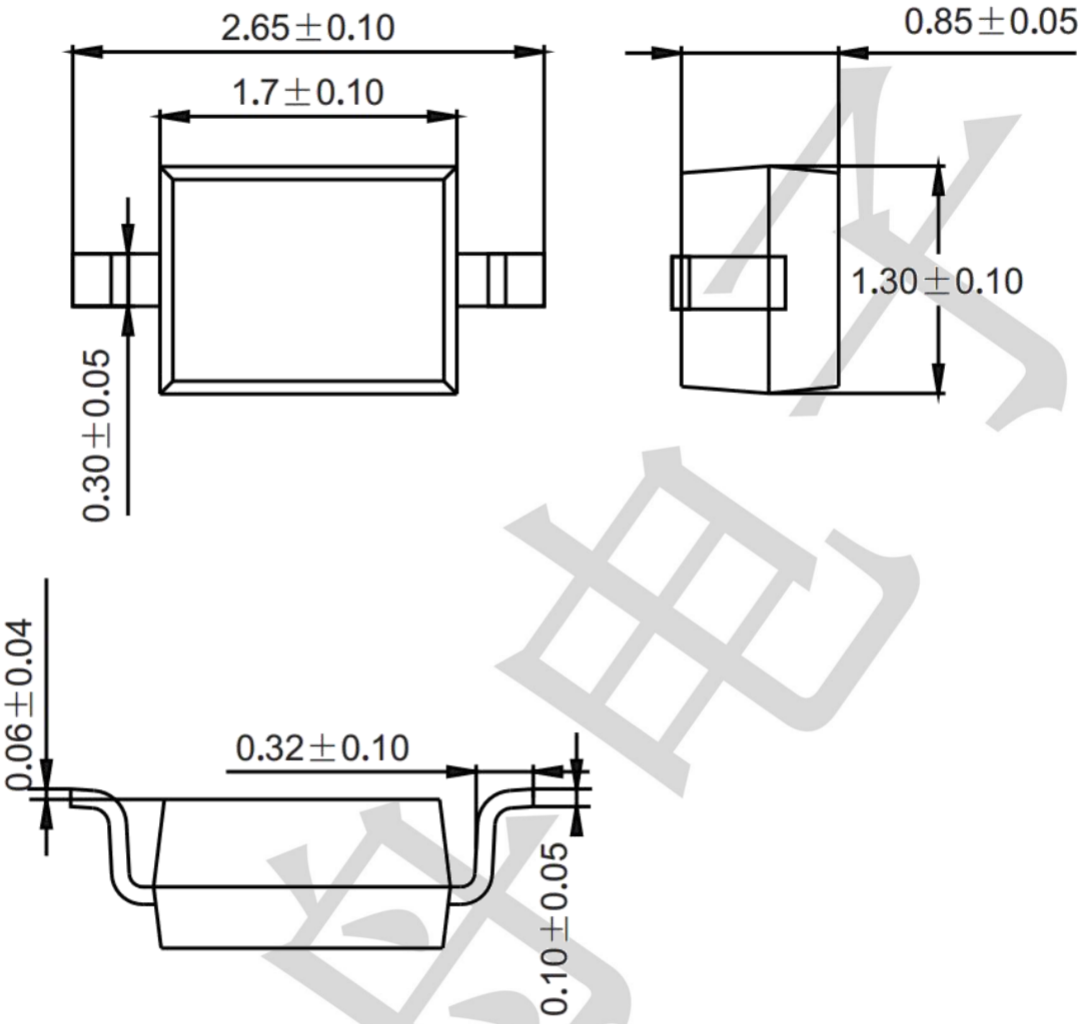


Recommended Conditions

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

Package Outline Dimensions (unit: mm)

SOD-323



Mounting Pad Layout (unit: mm)

