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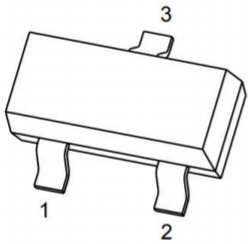
TPBAT721S

40 V, 200 mA Schottky barrier dual diode

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Features

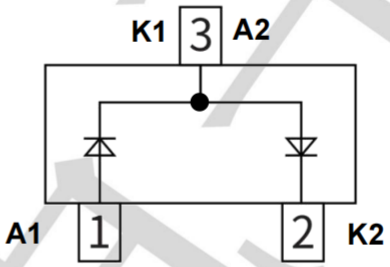
- Multilayer Metal -Silicon Potential Structure
- High Current Capability, High Efficiency
- High Junction Temperature Capability
- Low Leakage Current
- RoHs Product



SOT-23

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	$I_{F(AV)}$	200	**mA**
Non-repetitive Peak Forward Surge Current @t=8.3ms Half-sine wave	IFSM	1.0	**A**
Power Dissipation (1)	PD	200	**mW**
Junction Temperature	Tj	150	℃
Storage temperature range	TSTG	-55 ~+150	℃
Typical thermal resistance	$R_{\theta JA}$	500	℃ **/W**

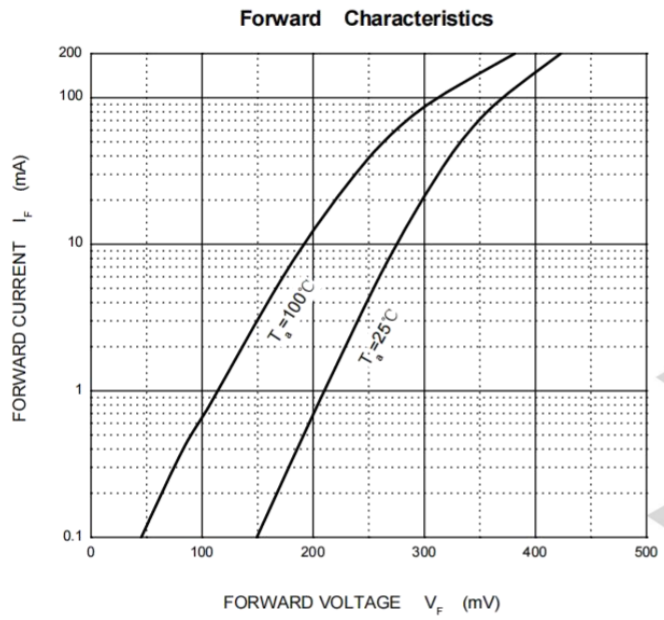
Note:1,Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

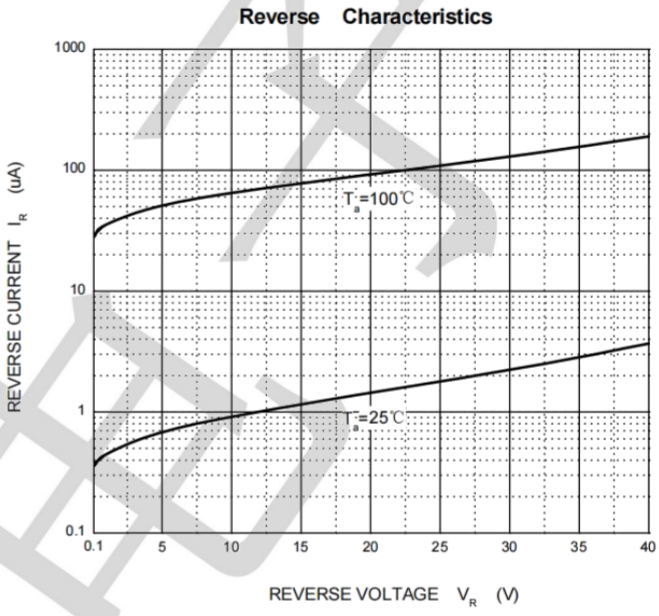
Electrical Characteristics (TA=25°C unless otherwise specified)

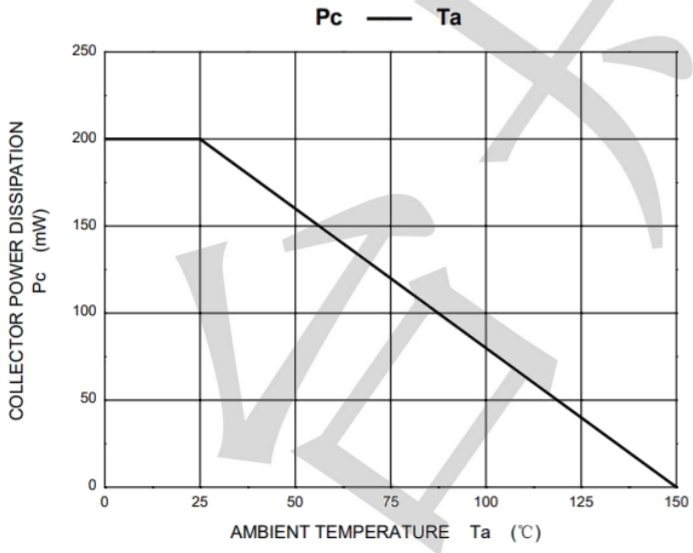
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse current	I_R	V_R=10V	--	2.5	30	**uA**
Reverse breakdown voltage	$V_{(BR)}$	I_R=500uA	40	--	--	**V**
Forward voltage	V_F	I_F=1mA (2)	--	190	300	**mV**
		I_F=10mA (2)	--	255	350	**mV**
		I_F=100mA (2)	--	355	450	**mV**
		I_F=200mA (2)	--	420	550	**mV**
Total Capacitance	C_T	VR = 0V, f = 1 MHz	--	20	25	**pF**

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

Typical Electrical Characteristic Curves

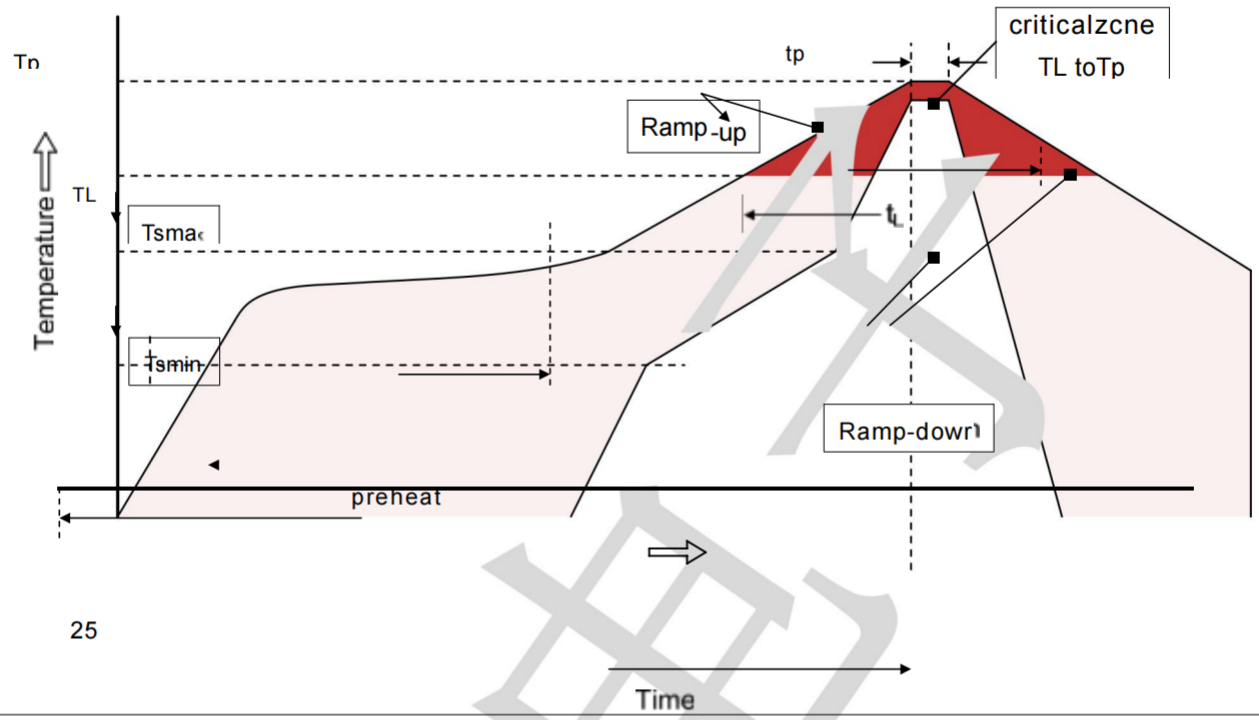






Recommended Soldering Conditions

Reflow Soldering

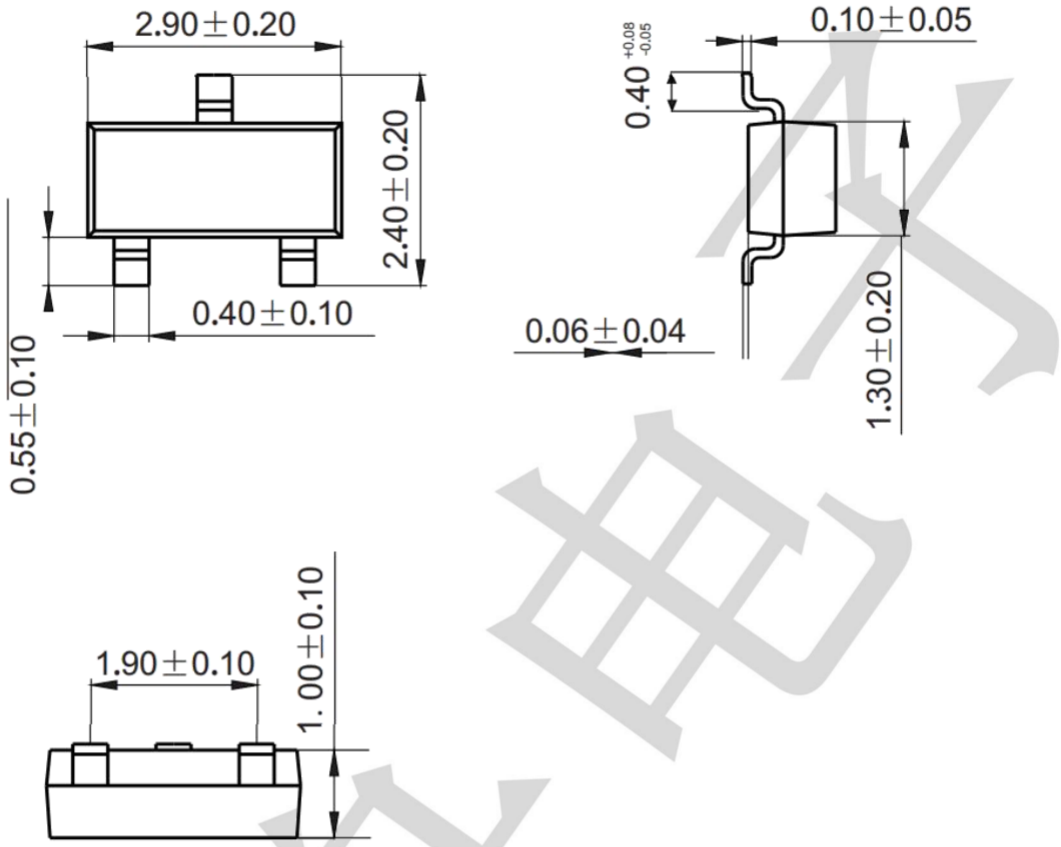


Recommended Conditions

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)

SOT23



Mounting Pad Layout (unit: mm)

