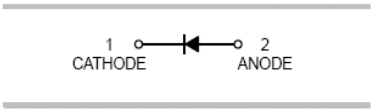
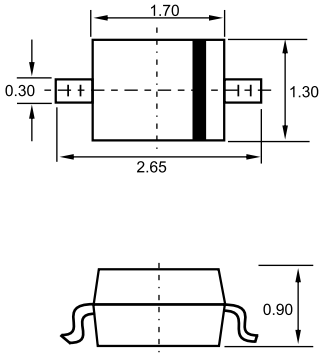
BAT54J

Schottky Barrier Diode



SOD-323



Dimensions in inches and (millimeters)

Features

- ✧ Very samll conduction losses.
- ✧ Negligible switching losses.
- ✧ Low forward voltage drop.
- ✧ Surface mount device.

Applications

- ✧ Schottky barrier diodes.
- ✧ Single and double diodes with different pining are available.

Ordering Information

Type No.	Marking	Package Code
BAT54J	86	SOD-323

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Limits	Unit
Peak Repetitive reverse voltage	V_{RRM}	30	V
Forward continuous current	I_F	0.3	A
Surge non repetitive forward current tp=10ms	I_{FSM}	1	A
Power Dissipation	P_d	230	mW
Thermal resistance,junction to ambient air	$R_{\theta jA}$	550	℃/W
Junction temperature	T_j	150	℃
Storage temperature range	T_{stg}	-65-150	℃

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward voltage	V_{F1}	I_F=0.1mA			240	mV
	V_{F2}	I_F=1.0mA			320	mV
	V_{F3}	I_F=10mA			400	mV
	V_{F4}	I_F=30mA			500	mV
	V_{F5}	I_F=100mA			900	mV
Reverse leakage current	I_R	V_R=30V T_j=25℃			1	μA
		V_R=30V T_j=100℃			100	μA
Reverse recovery time	t_{rr}	I_F=10mA,I_R=10mA to 1mA R_L=100Ω			5.0	ns
Junction capacitance	C_J	V_R=1.0V,f=1.0MHz			10	pF

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Fig. 1-1: Forward voltage drop versus forward current (typical values, low level).

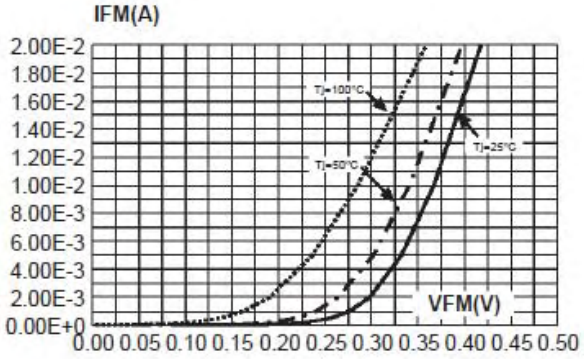

Fig. 1-2: Forward voltage drop versus forward current (typical values, high level).

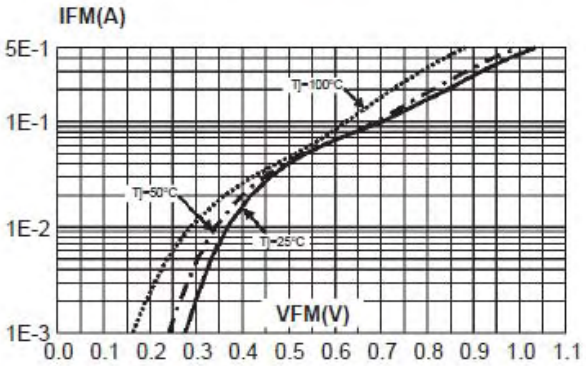

Fig. 2: Reverse leakage current versus reverse voltage applied (typical values).

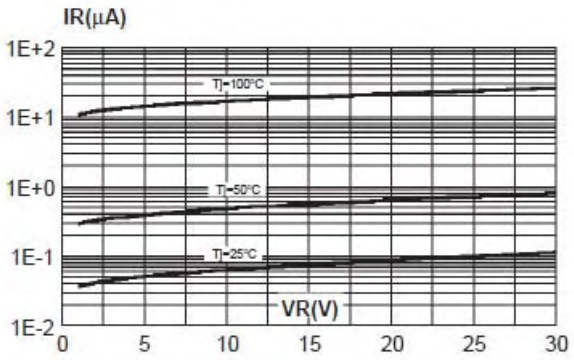

Fig. 3: Reverse leakage current versus junction temperature.

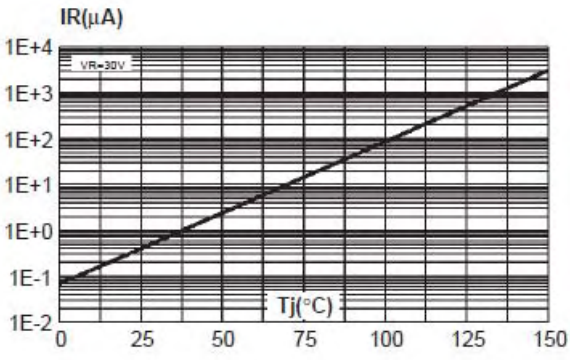

Fig. 4: Junction capacitance versus reverse voltage applied (typical values).

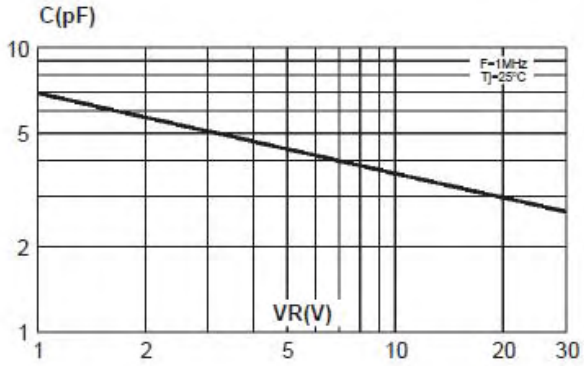

Fig. 5: Relative variation of thermal impedance junction to ambient versus pulse duration (epoxy FR4 with recommended pad layout, e(Cu)=35µm)

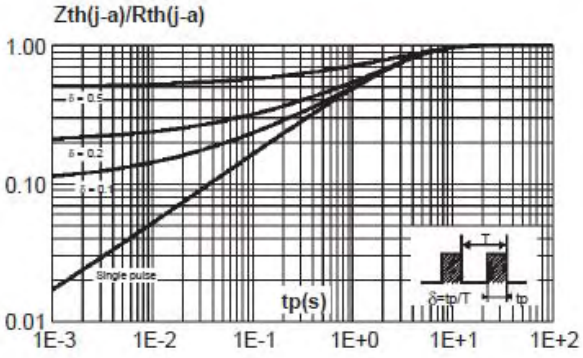

Fig. 6: Thermal resistance junction to ambient versus copper surface under each lead (Epoxy printed circuit board FR4, copper thickness: 35µm.)