



Schottky Barrier Diode

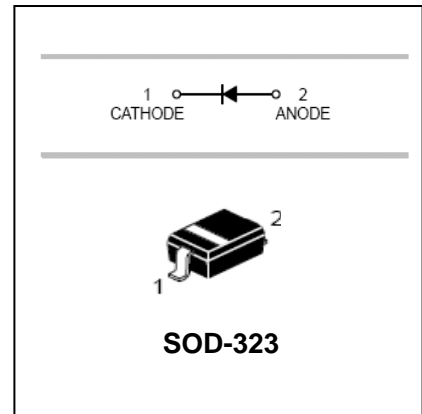
BAT54J

FEATURES

- Very small conduction losses
- Negligible switching losses
- Low forward voltage drop
- Surface mount device



Lead-free



APPLICATIONS

- Schottky barrier diodes
- Single and double diodes with different pinning are available

ORDERING INFORMATION

Type No.	Marking	Package Code
BAT54J	86	SOD-323

MAXIMUM RATING @ Ta=25°C 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	°C/W
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-65 to +150	°C



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ELECTRICAL CHARACTERISTICS @ Ta=25°C 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°C			1	μA
		V _R =30V T _J =100°C			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°C unless otherwise specified

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

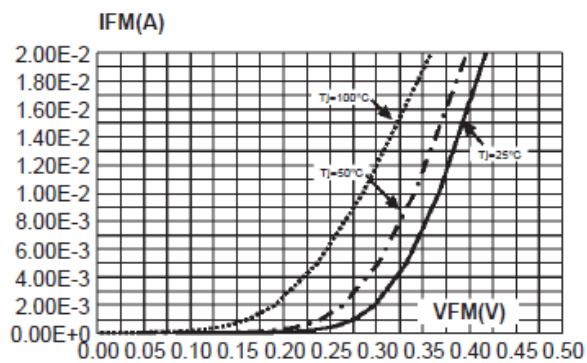


Fig. 1-2: Forward voltage drop versus forward current (typical values, high level).

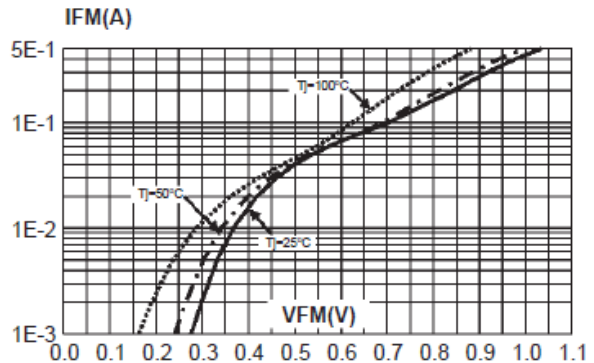


Fig. 2: Reverse leakage current versus reverse voltage applied (typical values).

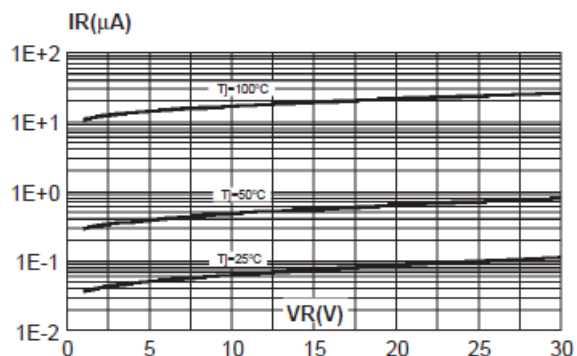
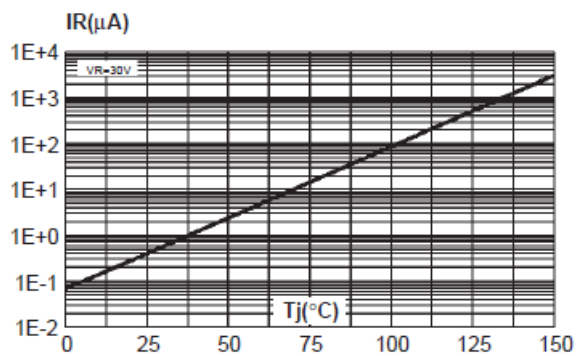


Fig. 3: Reverse leakage current versus junction temperature.



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

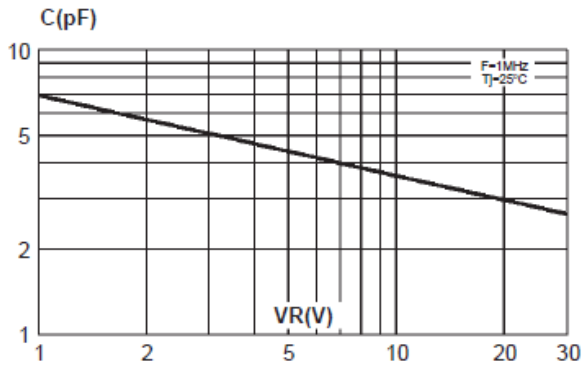


Fig. 5: Relative variation of thermal impedance junction to ambient versus pulse duration (epoxy FR4 with recommended pad layout, e(Cu)=35µm)

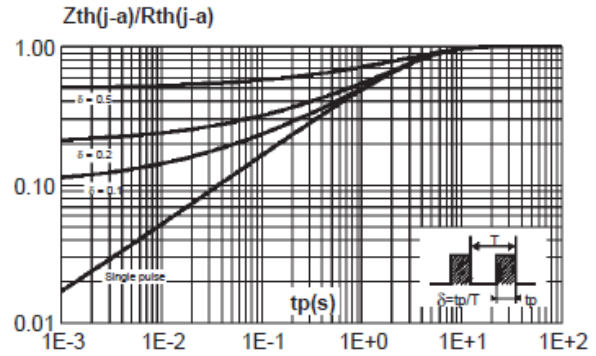
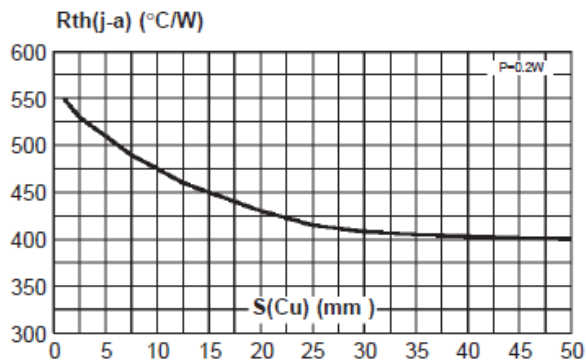


Fig. 6: Thermal resistance junction to ambient versus copper surface under each lead (Epoxy printed circuit board FR4, copper thickness: 35µm.)



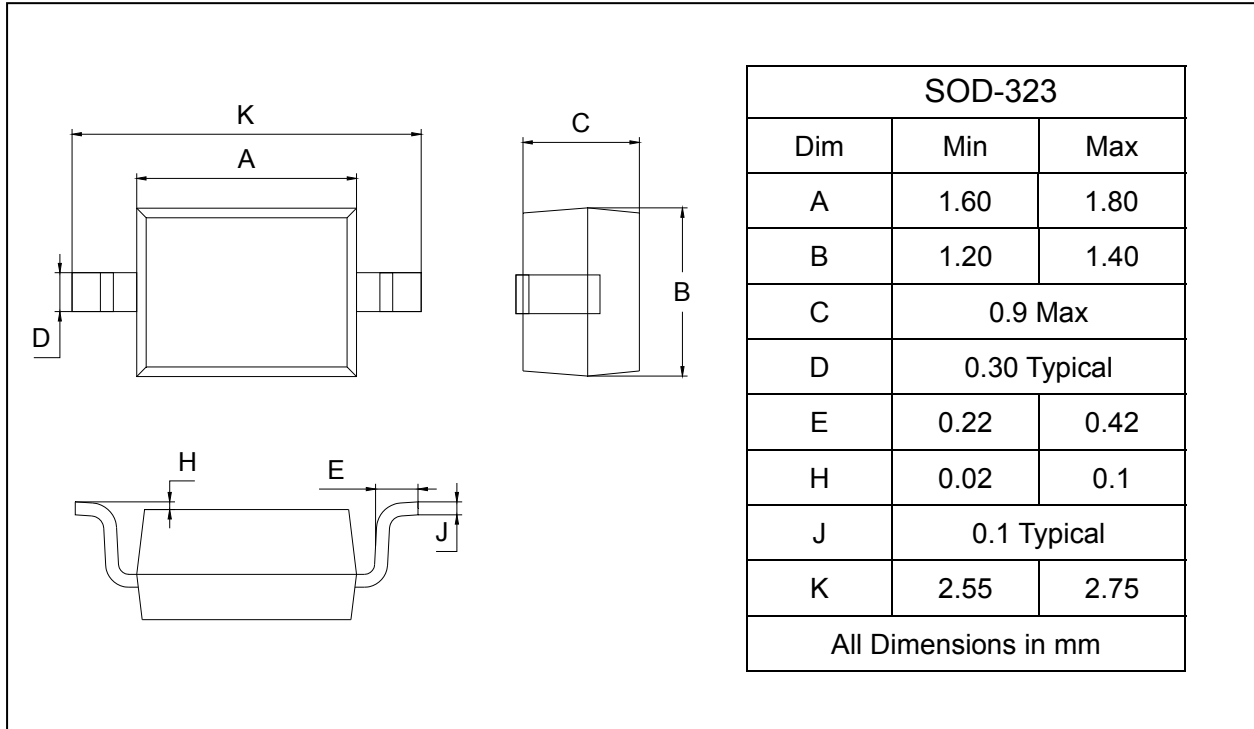
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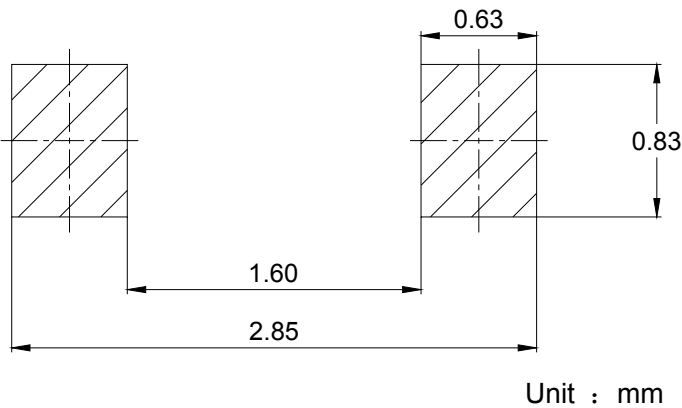
PACKAGE OUTLINE

Plastic surface mounted package

SOD-323



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BAT54J	SOD-323	3000/Tape&Reel