

II. Schottky Rectifier

BAT54 Series

(Package: SOT-23)

<p>FEATURES</p> <ul style="list-style-type: none"> • Low turn-on voltage • Fast switching • PN junction guard ring for transient and ESD protection <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case : SOT-23, Plastic • Terminals : Solderable per MIL-STD-202, Method 208 • Weight : 0.008 grams • Polarity: see diagrams below: 		<table border="1"> <thead> <tr> <th colspan="3">SOT-23</th> </tr> <tr> <th>DIM</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr><td>A</td><td>0.37</td><td>0.50</td></tr> <tr><td>B</td><td>1.20</td><td>1.39</td></tr> <tr><td>C</td><td>2.10</td><td>2.50</td></tr> <tr><td>D</td><td>0.89</td><td>1.02</td></tr> <tr><td>E</td><td>0.45</td><td>0.60</td></tr> <tr><td>G</td><td>1.78</td><td>2.04</td></tr> <tr><td>H</td><td>2.80</td><td>3.04</td></tr> <tr><td>J</td><td>0.013</td><td>0.10</td></tr> <tr><td>K</td><td>0.89</td><td>1.11</td></tr> <tr><td>L</td><td>0.45</td><td>0.60</td></tr> <tr><td>M</td><td>0.085</td><td>0.177</td></tr> </tbody> </table> <p>All Dimensions in mm</p>	SOT-23			DIM	Min	Max	A	0.37	0.50	B	1.20	1.39	C	2.10	2.50	D	0.89	1.02	E	0.45	0.60	G	1.78	2.04	H	2.80	3.04	J	0.013	0.10	K	0.89	1.11	L	0.45	0.60	M	0.085	0.177
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 TOP VIEW BAT54 Marking : L4 or KL1	 TOP VIEW BAT54A Marking : L42 or KL2	 TOP VIEW BAT54C Marking : L43 or KL3	 TOP VIEW BAT54S Marking : L44 or KL4
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Ratings & Electrical Characteristics

Ratings	Symbol	Value	Units
Peak repetitive reverse voltage	V_{RRM}	30	Volts
Working peak reverse voltage	V_{RWM}		
DC blocking voltage	V_R		
Forward continuous current (Note 1)	I_F	200	mA
Repetitive peak forward current (Note 1)	I_{FRM}	300	mA
Forward surge current @ $t_p < 1.0s$ (Note 1)	I_{FSM}	600	mA
Power dissipation (Note 1)	P_d	200	mW
Thermal resistance junction to ambient air	R_{th-JA}	500	K / W
Operating and storage temperature range	T_J, T_{stg}	-65 to +125	°C

Electrical Characteristics ($T_a = 25^\circ C$ unless otherwise specified)					
Characteristics	Symbol	Min.	Max.	Unit	Test Condition
Reverse breakdown voltage	$V_{(BR)R}$	30	-	V	$I_{RS} = 100 \mu A$
Forward voltage	V_F	-	240 320 400 500 1000	mV	$T_P < 300 \mu s$, duty cycle < 2% @ $I_F = 0.1 mA$ @ $I_F = 1 mA$ @ $I_F = 10 mA$ @ $I_F = 30 mA$ @ $I_F = 100 mA$
Reverse leakage current	I_R	-	2.0	μA	$t_P < 300 \mu s$, duty cycle < 2% @ $V_R = 25 V$
Junction capacitance	C_j	-	10	pF	$V_R = 1.0, f = 1.0MHz$
Reverse recovery time	T_{rr}	-	5.0	ns	$I_F = 10mA$ through $I_R = 10mA$ to $I_R = 1.0mA, R_L = 100\Omega$

Notes:
1. Diode on fiberglass substrate

<http://patron-components.com/>

Ratings and Characteristic Curves of BAT54 Series

FIG.1-Forward current as a function of forward voltage ; typical values

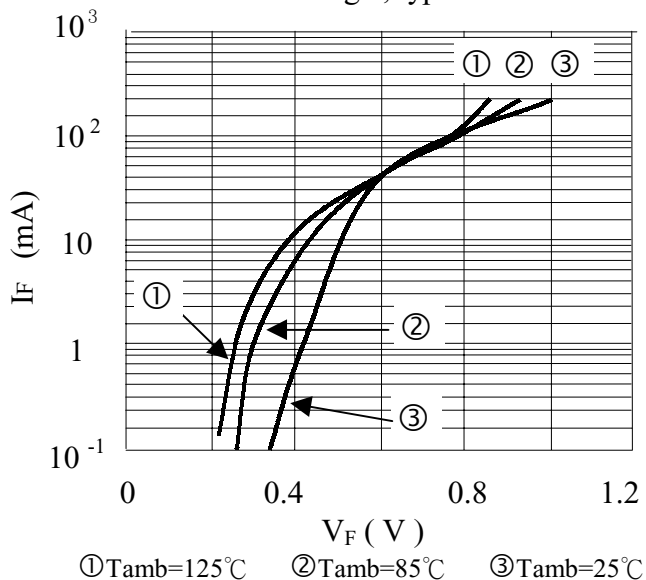


FIG.2-Reverse current as a function of reverse voltage ; typical values

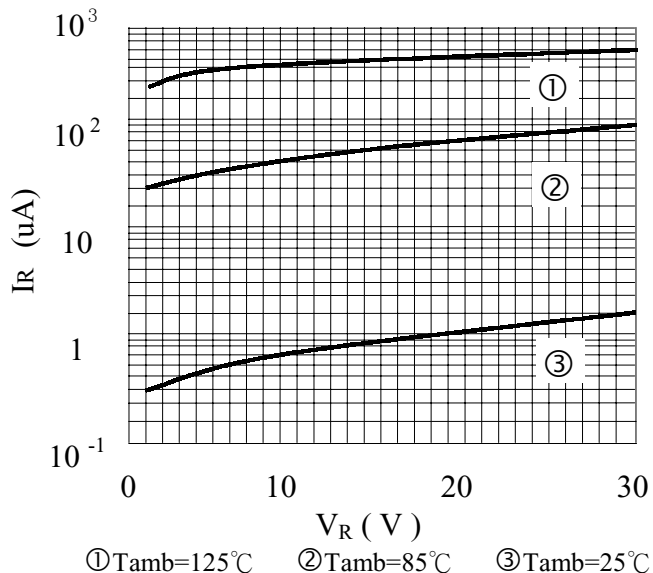


FIG.3-Diode capacitance as a function of reverse voltage ; typical values

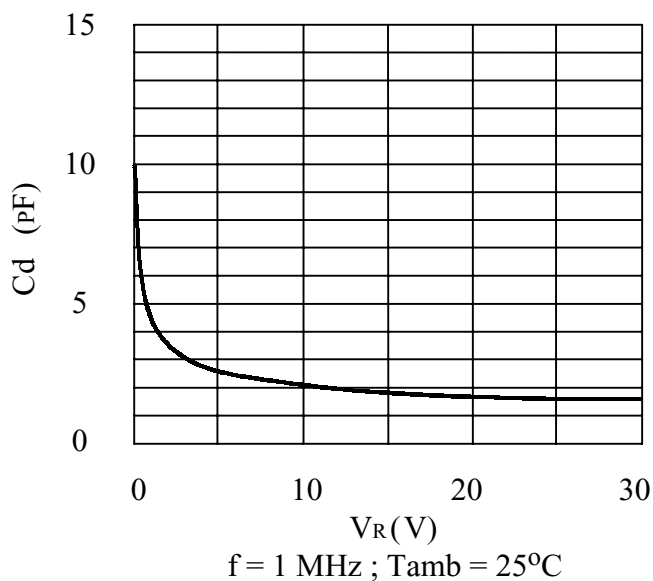


FIG.4 -Reverse recovery definitions

