BAT54/54A/54C/54S

SMALL SIGNAL SCHOTTKY DIODE, SINGLE & DUAL

PRV : 30 Volts
Io : 200 mA

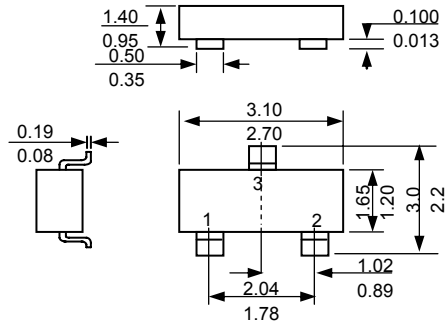
FEATURES :

* These diodes feature very low turn-on voltage
* Fast switching
* These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
* Pb / RoHS Free

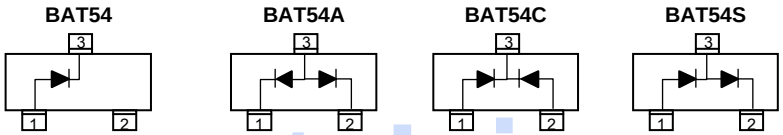
MECHANICAL DATA :

* Case : SOT-23 plastic Case
* BAT54 Marking Code : L4
* BAT54A Marking Code : L42
* BAT54C Marking Code : L43
* BAT54S Marking Code : L44

SOT-23



Dimensions in millimeters



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	30	V
Maximum Rectified Average Forward Current	$I_{F(AV)}$	200(1)	mA
Maximum Repetitive Peak Forward Current	I_{FRM}	300(1)	mA
Maximum Peak Forward Surge Current at tp < 1 s	I_{FSM}	600(1)	mA
Total Power Dissipation	P_{tot}	230	mW
Thermal Resistance Junction to Ambient Air	$R_{\Theta JA}$	430(1)	K/W
Junction Temperature Range	T_J	125	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified.)

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	I_R = 100 µA pulses	$V_{(BR)}$	30	-	-	V
Leakage Current (Note 2)	V_R = 25 V	I_R	-	-	2	µA
Forward Voltage (Note 2)	I_F = 0.1 mA	V_F	-	-	240	mV
	I_F = 1 mA	V_F	-	-	320	mV
	I_F = 10 mA	V_F	-	-	400	mV
	I_F = 30 mA	V_F	-	-	500	mV
	I_F = 100 mA	V_F	-	-	800	mV
Diode Capacitance	V_R = 1 V, f = 1 MHz	C_{tot}	-	-	10	pF
Reverse Recovery Time	I_F = 10 mA through I_R = 10 mA, to Irr = 1A , R_L = 100 Ω	Trr	-	-	5	ns

Notes :

(1) Device on fiberglass substrate

(2) Pulse test tp < 300 µs, δ< 2%

RATINGS AND CHARACTERISTIC CURVES (BAT54/54A/54C/54S)

FIG.1 - DERATING CURVE

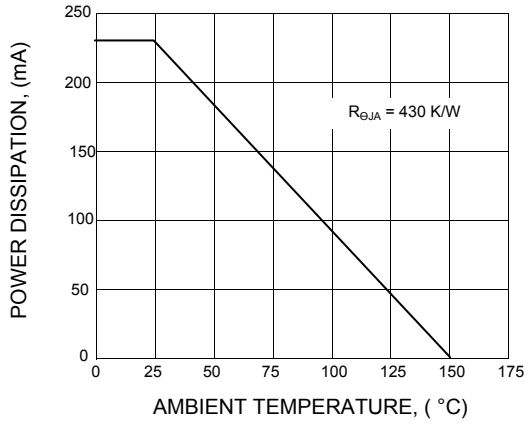


FIG.2 - TYPICAL CAPACITANCE VS. REVERSE VOLTAGE

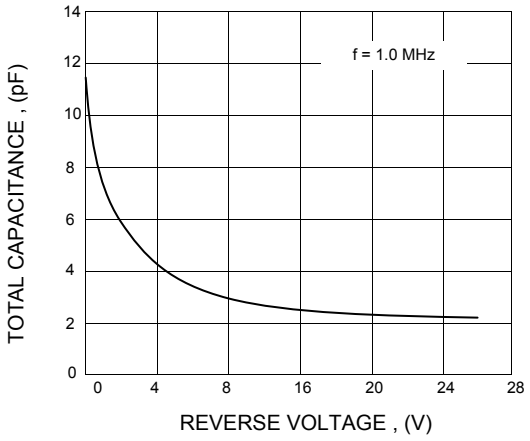


FIG.3 - TYPICAL FORWARD VOLTAGE FORWARD CURRENT AT VARIOUS TEMPERATURE

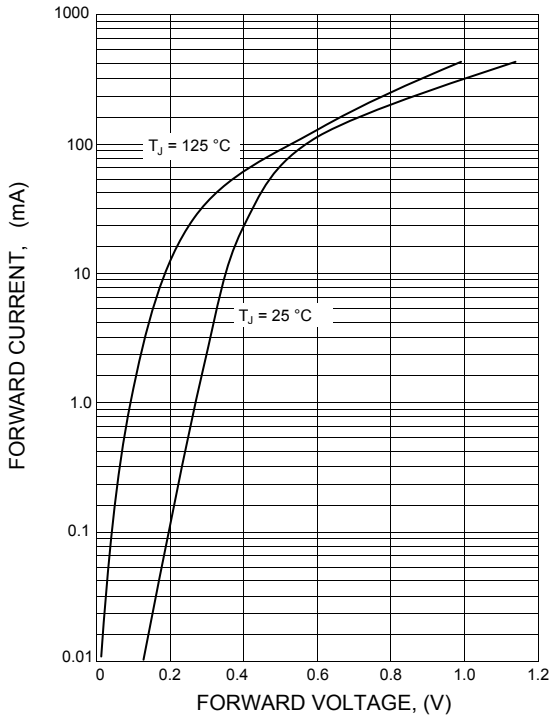


FIG.4 - TYPICAL VARIATION OF REVERSE CURRENT AT VARIOUS TEMPERATURES