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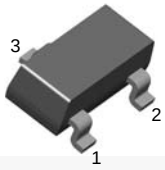
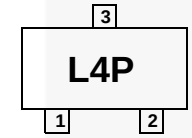
April 2016

BAT54 / BAT54A / BAT54C / BAT54S
Schottky Diodes



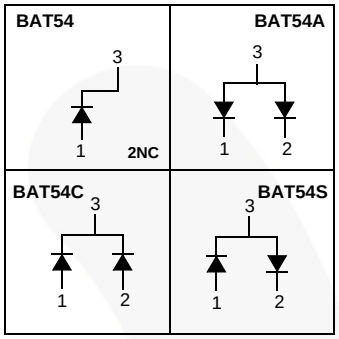
SOT-23



MARKING

BAT54 = L4P BAT54A = L42
BAT54C = L43 BAT54S = L44

Connection Diagram



Ordering Information

Part Number	Top Mark	Package	Packing Method
BAT54	L4P	SOT-23 3L	3k per Tape and Reel
BAT54_D87Z	L4P	SOT-23 3L	10k per Tape and Reel
BAT54A	L42	SOT-23 3L	3k per Tape and Reel
BAT54C	L43	SOT-23 3L	3k per Tape and Reel
BAT54S	L44	SOT-23 3L	3k per Tape and Reel
BAT54S_D87Z	L44	SOT-23 3L	10k per Tape and Reel

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
V_{RRM}	Maximum Repetitive Reverse Voltage	30	V
$I_{F(AV)}$	Average Rectified Forward Current	200	mA
I_{FSM}	Non-Repetitive Peak Forward Surge Current Pulse Width = 1.0 second	600	mA
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature	-55 to +150	°C

Thermal Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
P_D	Power Dissipation	290	mW
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	430	°C/W

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Max.	Unit
V_R	Breakdown Voltage	I_R = 10 μA	30		V
V_F	Forward Voltage	I_F = 0.1 mA		240	mV
		I_F = 1 mA		320	mV
		I_F = 10 mA		400	mV
		I_F = 30 mA		500	mV
		I_F = 100 mA		0.8	V
I_R	Reverse Leakage	V_R = 25 V		2	μA
C_T	Total Capacitance	V_R = 1 V, f = 1.0 MHz		10	pF
t_{rr}	Reverse Recovery Time	I_F = I_R = 10 mA, I_{RR} = 1.0 mA, R_L = 100 Ω		5.0	ns

Typical Performance Characteristics

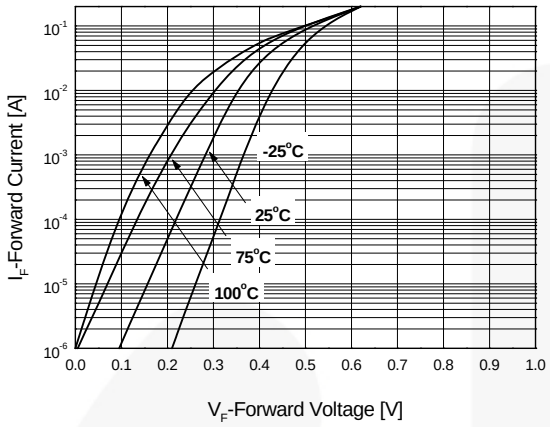


Figure 1. Forward Current vs. Forward Voltage

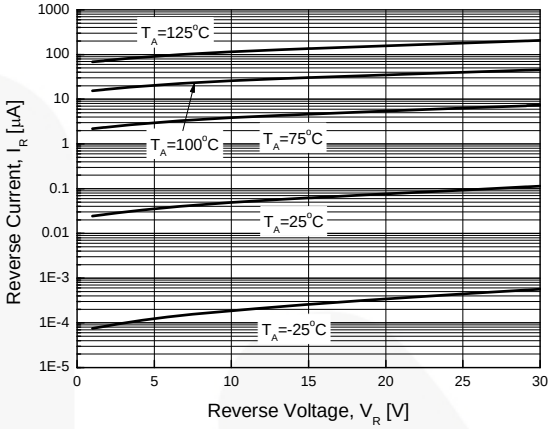


Figure 2. Reverse Current vs. Reverse Voltage

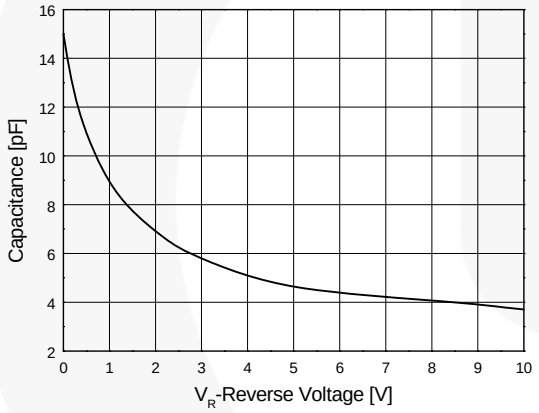
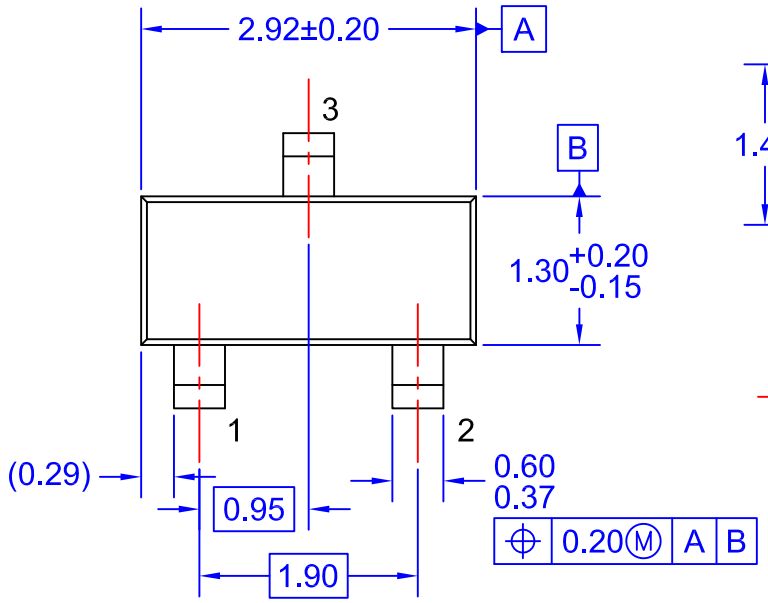
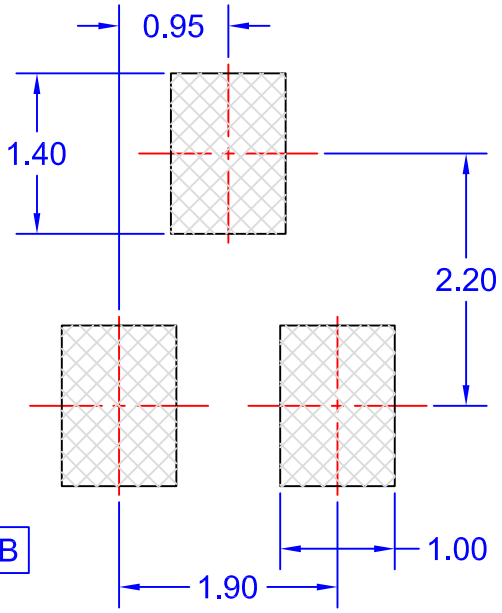
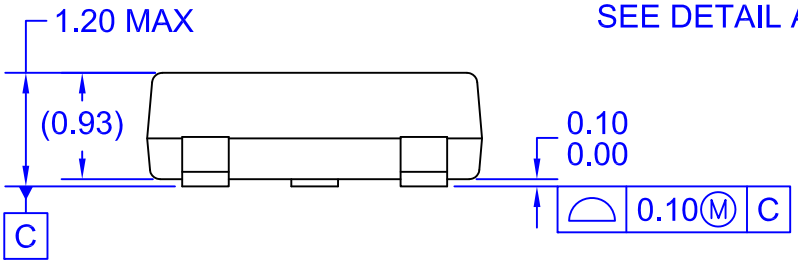


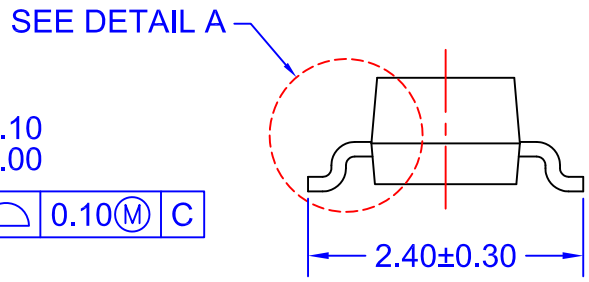
Figure 3. Total Capacitance vs. Reverse Voltage

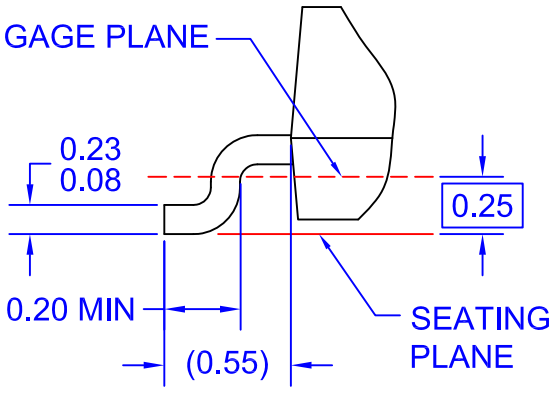




LAND PATTERN
RECOMMENDATION







DETAIL A
SCALE: 2X

NOTES: UNLESS OTHERWISE SPECIFIED

A) REFERENCE JEDEC REGISTRATION TO-236, VARIATION AB, ISSUE H.
B) ALL DIMENSIONS ARE IN MILLIMETERS.
C) DIMENSIONS ARE INCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR EXTRUSIONS.
D) DIMENSIONING AND TOLERANCING PER ASME Y14.5M - 2009.
E) DRAWING FILE NAME: MA03DREV12

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