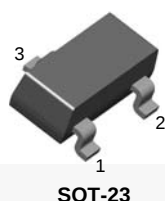


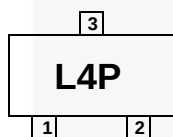


November 2014

BAT54 / BAT54A / BAT54C / BAT54S Schottky Diodes



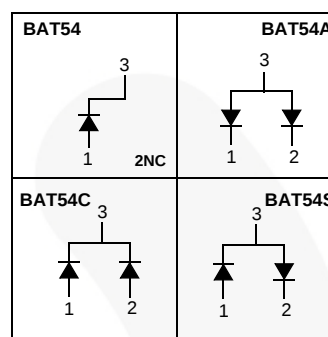
SOT-23



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	Tape and Reel
BAT54_D87Z	L4P	SOT-23 3L	Tape and Reel
BAT54A	L42	SOT-23 3L	Tape and Reel
BAT54C	L43	SOT-23 3L	Tape and Reel
BAT54S	L44	SOT-23 3L	Tape and Reel
BAT54S_D87Z	L44	SOT-23 3L	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 $T_A = 25^\circ\text{C}$ 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	$^\circ\text{C}$
T_J	Operating Junction Temperature	-55 to +150	$^\circ\text{C}$

Thermal Characteristics

Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

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

Electrical Characteristics

Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

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

Typical Performance Characteristics

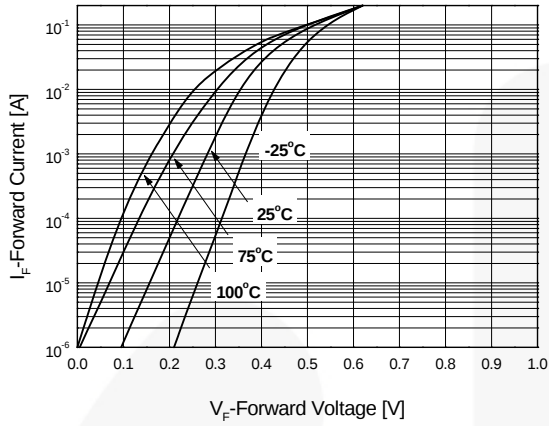


Figure 1. Forward Current vs. Forward Voltage

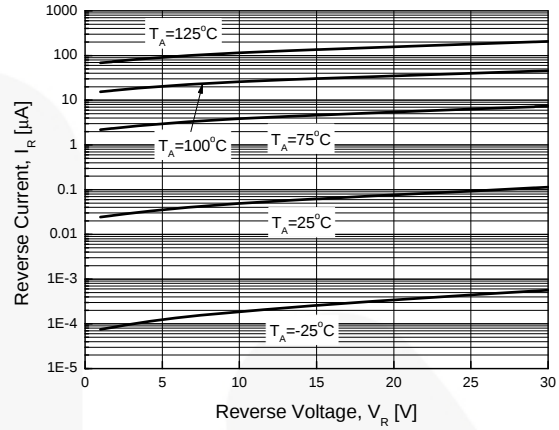


Figure 2. Reverse Current vs. Reverse Voltage

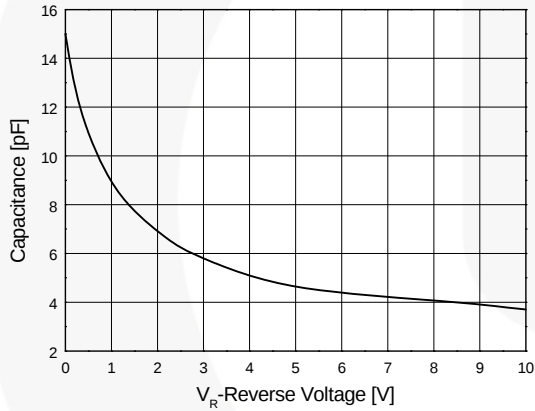
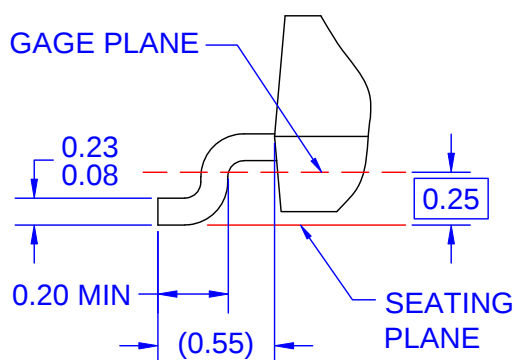
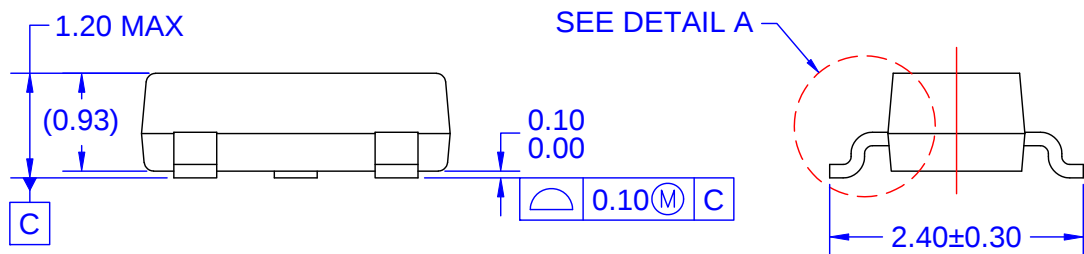
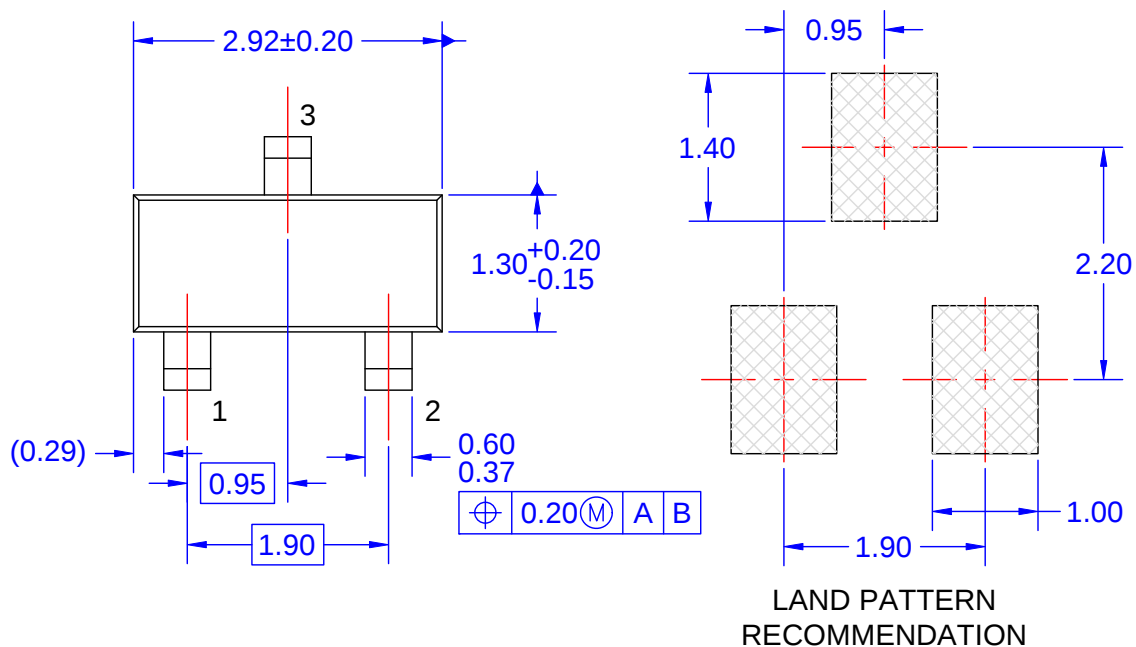


Figure 3. Total Capacitance vs. Reverse Voltage



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 - 1994.
- E) DRAWING FILE NAME: MA03DREV10



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Definition of Terms

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Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

Rev. I72

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Contact Us :

➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
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➤ Sales :

Direct +86 (21) 6401-6692
Email amall@ameya360.com
QQ 800077892
Skype ameyasales1 ameyasales2

➤ Customer Service :

Email service@ameya360.com

➤ Partnership :

Tel +86 (21) 64016692-8333
Email mkt@ameya360.com