Dual Series Schottky Barrier Diodes

These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand held and portable applications where space is limited.

Features

- Extremely Fast Switching Speed
- Low Forward Voltage -0.35 V (Typ) @ $I_F = 10 \text{ mAdc}$
- S Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb–Free, Halogen Free/BFR Free and are RoHS Compliant*

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V _R	30	V
Forward Power Dissipation @ T _A = 25°C Derate above 25°C	P _F	225 1.8	mW mW/°C
Forward Current (DC)	IF	200 Max	mA
Non-Repetitive Peak Forward Current t _p < 10 msec Square pulse = 1 sec	I _{FSM}	600 1.0	mA A
Repetitive Peak Forward Current Pulse Wave = 1 sec, Duty Cycle = 66%	I _{FRM}	300	mA
Junction Temperature	TJ	-55 to 150	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



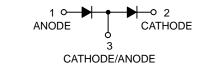
ON Semiconductor®

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30 VOLT DUAL HOT-CARRIER DETECTOR AND SWITCHING DIODES



SOT-23 CASE 318 STYLE 11



MARKING DIAGRAM



LD3 = Device Code M = Date Code* ■ Pb-Free Package

(Note: Microdot may be in either location)

*Date Code orientation and/or overbar may vary depending upon manufacturing location.

ORDERING INFORMATION

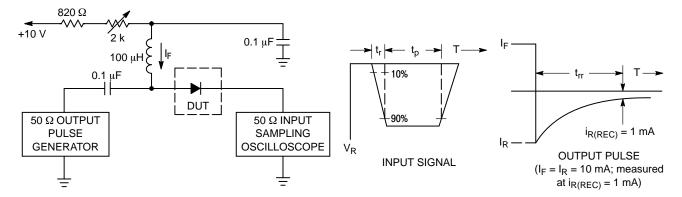
Device	Package	Shipping [†]
BAT54SLT1G	SOT-23 (Pb-Free)	3,000 / Tape & Reel
SBAT54SLT1G	SOT-23 (Pb-Free)	3,000 / Tape & Reel

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

^{*}For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

ELECTRICAL CHARACTERISTICS ($T_A = 25^{\circ}C$ unless otherwise noted) (EACH DIODE)

Characteristic	Symbol	Min	Тур	Max	Unit
Reverse Breakdown Voltage (I _R = 10 μA)	V _{(BR)R}	30	-	-	V
Total Capacitance (V _R = 1.0 V, f = 1.0 MHz)	C _T	-	7.6	10	pF
Reverse Leakage (V _R = 25 V)	I _R	-	0.5	2.0	μAdc
Forward Voltage (I _F = 0.1 mA) (I _F = 1.0 mA) (I _F = 10 mA) (I _F = 30 mA) (I _F = 100 mA)	V _F	- - - -	0.22 0.29 0.35 0.41 0.52	0.24 0.32 0.40 0.50 0.80	V
Reverse Recovery Time (I _F = I _R = 10 mAdc, I _{R(REC)} = 1.0 mAdc, Figure 1)	t _{rr}	_	-	5.0	ns



Notes: 1. A 2.0 $k\Omega$ variable resistor adjusted for a Forward Current (IF) of 10 mA.

- 2. Input pulse is adjusted so I_{R(peak)} is equal to 10 mA.
- $3. t_p * t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

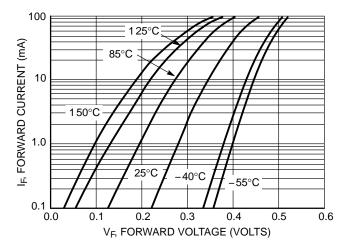


Figure 2. Forward Voltage

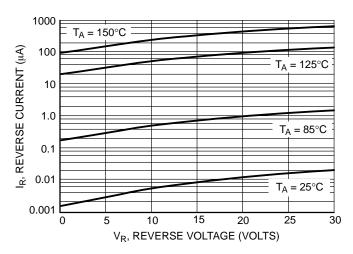


Figure 3. Leakage Current

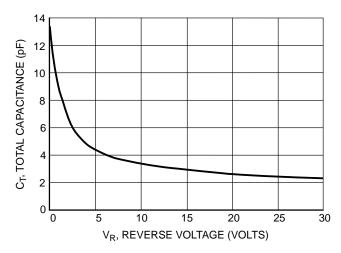
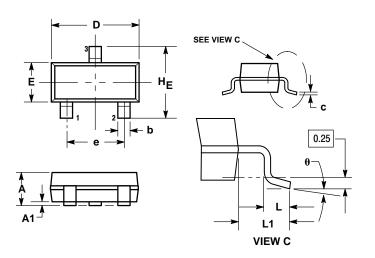


Figure 4. Total Capacitance

PACKAGE DIMENSIONS

SOT-23 (TO-236) CASE 318-08 **ISSUE AP**



NOTES:

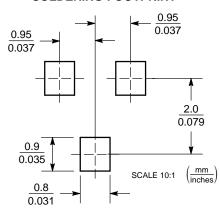
- 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- CONTROLLING DIMENSION: INCH.
 MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
- DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
Α	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
С	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
е	1.78	1.90	2.04	0.070	0.075	0.081
L	0.10	0.20	0.30	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104
A	0°		10°	0°		10°

STYLE 11:

- PIN 1. ANODE
 - CATHODE
 - CATHODE-ANODE

SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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