Preferred Device

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 Volts (Typ) @ $I_F = 10$ mAdc
- Pb–Free Package is Available



1.1. 1.						
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			
Thermal Resistance, Junction-to-Ambient (Note 1)	$R_{ heta JA}$	555	°C/W			
Forward Current (DC)	IF	200 Max	mA			
Junction Temperature	TJ	-55 to 125	°C			
Storage Temperature Range	T _{stg}	-55 to +150	°C			

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

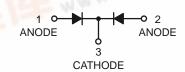
1. FR-4 board with minimum mounting pad.



ON Semiconductor®

http://onsemi.com

30 VOLT **DUAL COMMON CATHODE** SCHOTTKY BARRIER DIODES



MARKING DIAGRAM



CASE 463 STYLE 3



= Device Code

= Date Code*

upon manufacturing location.

= Pb-Free Package

(Note: Microdot may be in either location) *Date Code orientation may vary depending

ORDERING INFORMATION

Device	Package	Shipping [†]
BAT54CTT1	SC-75	3000 / Tape & Reel
BAT54CTT1G	SC-75 (Pb-Free)	3000 / Tape & Reel

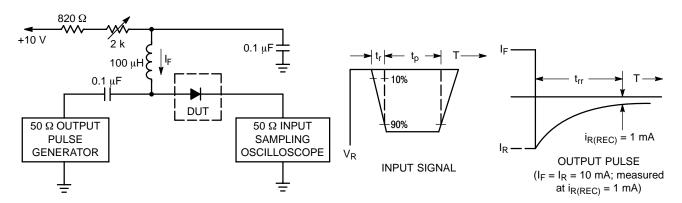
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

Preferred devices are recommended choices for future use and best overall value



ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (EACH DIODE)

Characteristic	Symbol	Min	Тур	Max	Unit
Reverse Breakdown Voltage $(I_R = 10 \ \mu A)$	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 mAdc)	V _F	-	0.22	0.24	Vdc
Forward Voltage (I _F = 30 mAdc)	V _F	-	0.41	0.5	Vdc
Forward Voltage (I _F = 100 mAdc)	V _F	-	0.52	0.8	Vdc
Reverse Recovery Time $(I_F = I_R = 10 \text{ mAdc}, I_{R(REC)} = 1.0 \text{ mAdc}, Figure 1)$	t _{rr}	-	_	5.0	ns
Forward Voltage (I _F = 1.0 mAdc)	V _F	-	0.29	0.32	Vdc
Forward Voltage (I _F = 10 mAdc)	V _F	-	0.35	0.40	Vdc
Forward Current (DC)	I _F	_	-	200	mAdc
Repetitive Peak Forward Current	I _{FRM}	_	-	300	mAdc
Non-Repetitive Peak Forward Current (t < 1.0 s)	I _{FSM}	-	_	600	mAdc



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

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

Figure 1. Recovery Time Equivalent Test Circuit

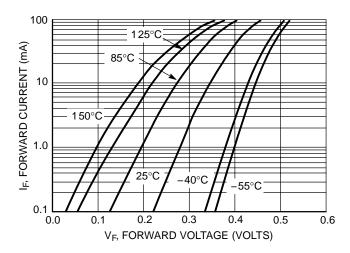


Figure 2. Forward Voltage

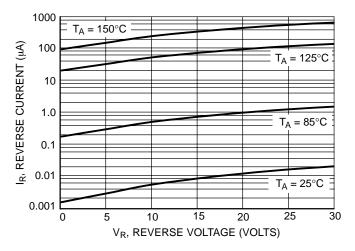


Figure 3. Leakage Current

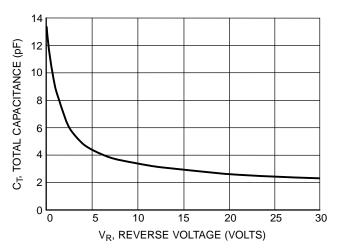
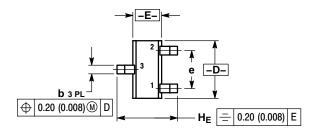
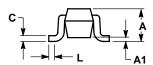


Figure 4. Total Capacitance

PACKAGE DIMENSIONS

SC-75 / SOT-416 PLASTIC PACKAGE CASE 463-01 ISSUE F





NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI
 Y14.5M, 1982.
- 2. CONTROLLING DIMENSION: MILLIMETER.

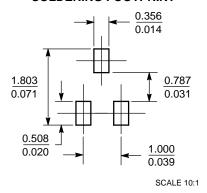
	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
Α	0.70	0.80	0.90	0.027	0.031	0.035
A1	0.00	0.05	0.10	0.000	0.002	0.004
b	0.15	0.20	0.30	0.006	0.008	0.012
С	0.10	0.15	0.25	0.004	0.006	0.010
D	1.55	1.60	1.65	0.059	0.063	0.067
Е	0.70	0.80	0.90	0.027	0.031	0.035
е	1.00 BSC		0.04 BSC			
L	0.10	0.15	0.20	0.004	0.006	0.008
HE	1.50	1.60	1.70	0.061	0.063	0.065

STYLE 3: PIN 1. ANODE 2. ANODE

(mm inches)

ANODE
 CATHODE

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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