



#### DUAL SURFACE MOUNT SCHOTTKY BARRIER DIODE

#### **Features**

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Lead Free/RoHS Compliant (Note 3)
- "Green" Device (Note 4 and 5)

### **Mechanical Data**

- Case: SOT-363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Terminal Connections: See Diagram
- Marking Information: See Page 2
- Ordering Information: See Page 2

**Device Schematic** 

Weight: 0.006 grams (approximate)



Top View

# **Maximum Ratings** $@T_A = 25^{\circ}C$ unless otherwise specified

Characteristic	Symbol	Value	Unit		
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	30	V		
Average Rectified Forward Current	lo	100	mA		
Forward Continuous Current (Note 1)	IF	200	mA		
Repetitive Peak Forward Current (Note 1)	I <sub>FRM</sub>	300	mA		
Forward Surge Current (Note 1) @ t < 1.0s	I <sub>FSM</sub>	600	mA		

## **Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	PD	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{ heta JA}$	625	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +125	°C

### Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	V <sub>(BR)R</sub>	30	_	_	V	I <sub>RS</sub> = 100μA
Forward Voltage	V <sub>F</sub>		_	240 320 400 500 1000	mV	$I_{F} = 0.1mA$ $I_{F} = 1mA$ $I_{F} = 10mA$ $I_{F} = 30mA$ $I_{F} = 100mA$
Reverse Leakage Current (Note 2)	IR	_		2.0	μA	V <sub>R</sub> = 25V
Total Capacitance	Ст	_		10	pF	V <sub>R</sub> = 1.0V, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>		_	5.0	ns	$I_F = 10mA$ through $I_R = 10mA$ to $I_R = 1.0mA$ , $R_L = 100\Omega$

Notes: 1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.

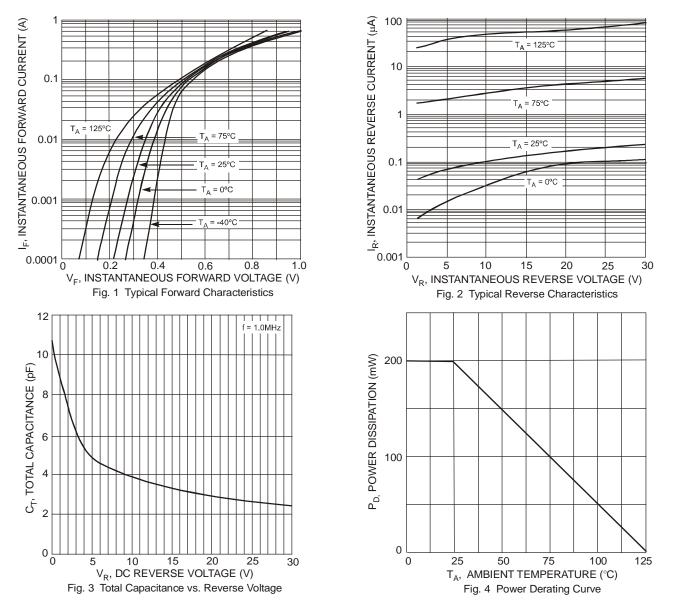
Short duration pulse test used to minimize self-heating effect.

3. No purposefully added lead.

4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead\_free/index.php.

5. Product manufactured with Date Code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to Date Code 0627 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.





## Ordering Information (Note 5 & 6)

Part Number	Case	Packaging
BAT54DW-7-F	SOT-363	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

## **Marking Information**



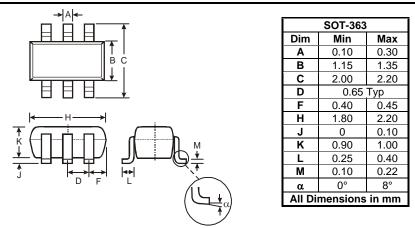
 $\begin{array}{l} \mathsf{KLD} = \mathsf{Product} \ \mathsf{Type} \ \mathsf{Marking} \ \mathsf{Code} \\ \mathsf{YM} = \mathsf{Date} \ \mathsf{Code} \ \mathsf{Marking} \\ \mathsf{Y} = \mathsf{Year} \ \mathsf{ex:} \ \mathsf{N} = 2002 \\ \mathsf{M} = \mathsf{Month} \ \mathsf{ex:} \ \mathsf{9} = \mathsf{September} \end{array}$ 

Date Code Key

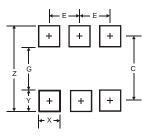
Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	М	Ν	Р	R	S	Т	U	V	W	Х	Y	Z	А	В	С
Month	Jan	Fe	b	Mar	Apr	Мау	Ju	n	Jul	Aug	Sep	Oc	t I	Nov	Dec
Code	1	2		3	4	5	6		7	8	9	0		Ν	D



### **Package Outline Dimensions**



## Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.5
G	1.3
Х	0.42
Y	0.6
С	1.9
E	0.65

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