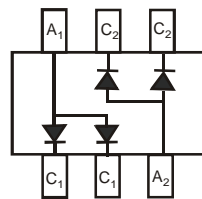


**SURFACE MOUNT SCHOTTKY BARRIER DIODE ARRAYS**
**Features**

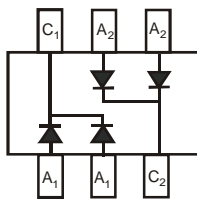
- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- **Lead Free/RoHS Compliant (Note 2)**
- **"Green" Device (Note 3 and 4)**



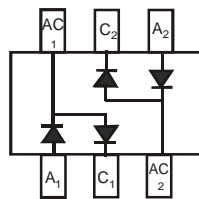
Top View



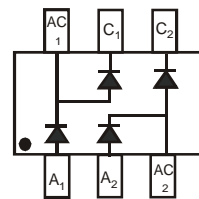
BAT54ADW\*



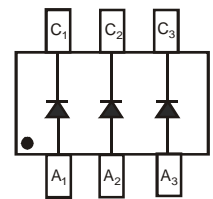
BAT54CDW\*



BAT54SDW\*



BAT54BRW



BAT54TW

\*Symmetrical configuration, no orientation indicator.

**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).
- Orientation: See Diagrams Below
- Marking Information: See Page 3
- Ordering Information: See Page 2
- Weight: 0.006 grams (approximate)

**Maximum Ratings** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	30	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>R</sub>		
Forward Continuous Current (Note 1)	I <sub>F</sub>	200	mA
Repetitive Peak Forward Current (Note 1)	I <sub>FRM</sub>	300	mA
Forward Surge Current (Note 1)	I <sub>FSM</sub>	600	mA

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P <sub>D</sub>	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	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	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	V <sub>(BR)R</sub>	30	—	—	V	I <sub>R</sub> = 100µA
Forward Voltage (Note 5)	V <sub>F</sub>	—	—	240	mV	I <sub>F</sub> = 0.1mA
				320		I <sub>F</sub> = 1mA
				400		I <sub>F</sub> = 10mA
				500		I <sub>F</sub> = 30mA
				1000		I <sub>F</sub> = 100mA
Reverse Leakage Current (Note 5)	I <sub>R</sub>	—	—	2.0	µA	V <sub>R</sub> = 25V
Total Capacitance	C <sub>T</sub>	—	—	10	pF	V <sub>R</sub> = 1.0V, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	—	5.0	ns	I <sub>F</sub> = 10mA through I <sub>R</sub> = 10mA to I <sub>R</sub> = 1.0mA, R <sub>L</sub> = 100Ω

- 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>.
  2. No purposefully added lead.
  3. Diodes Inc.'s "Green" policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).
  4. Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants
  5. Short duration pulse test used to minimize self-heating effect.

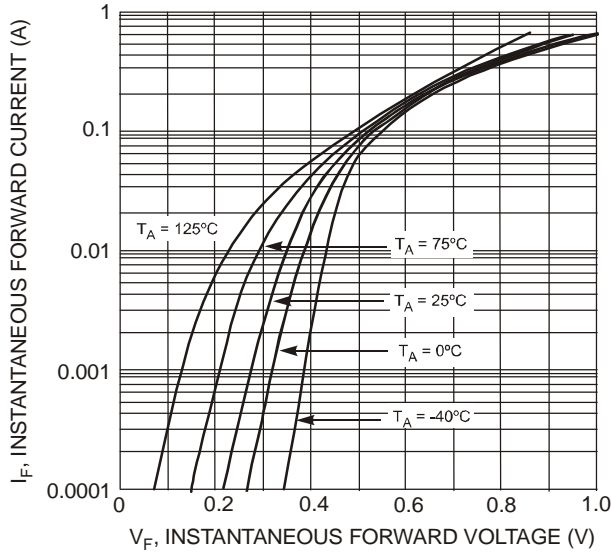


Fig. 1 Typical Forward Characteristics

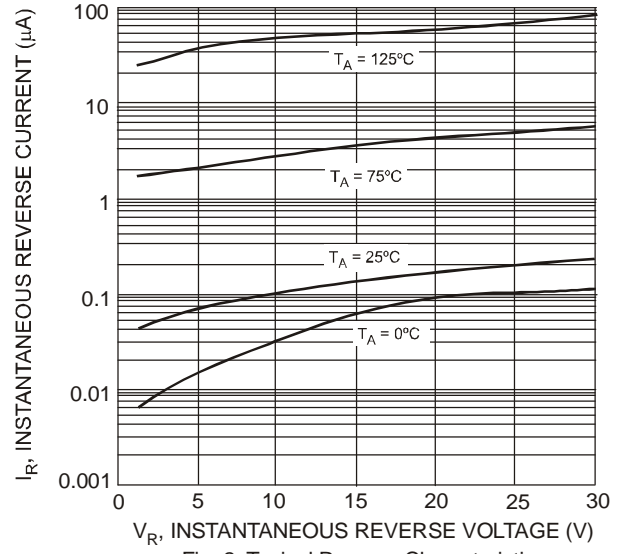


Fig. 2 Typical Reverse Characteristics

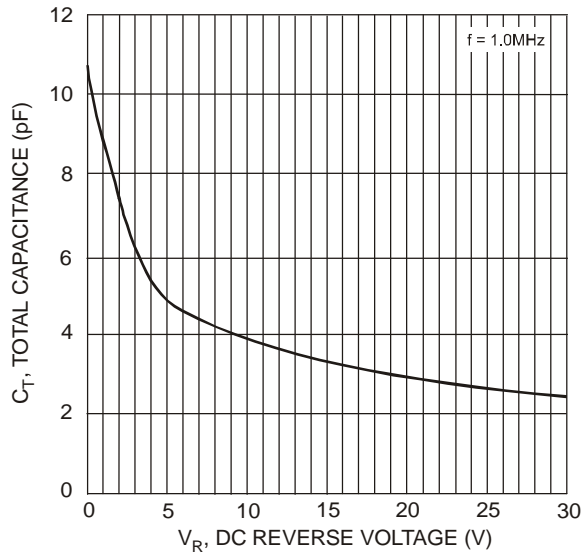


Fig. 3 Total Capacitance vs. Reverse Voltage

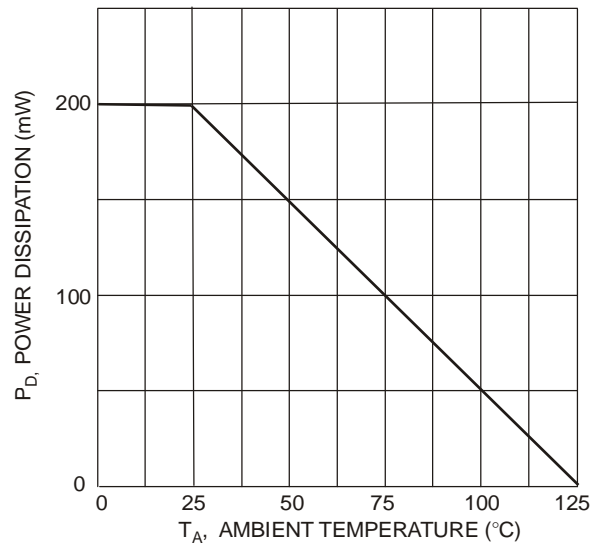


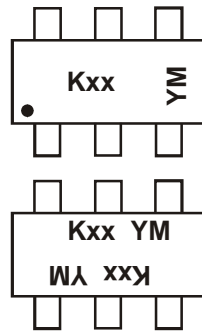
Fig. 4 Power Derating Curve

**Ordering Information** (Note 6)

Part Number	Case	Packaging
BAT54ADW-7-F	SOT-363	3000/Tape & Reel
BAT54CDW-7-F	SOT-363	3000/Tape & Reel
BAT54SDW-7-F	SOT-363	3000/Tape & Reel
BAT54BRW-7-F	SOT-363	3000/Tape & Reel
BAT54TW-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



Kxx = Product Type Marking Code  
 For Symmetrical Configuration, No Orientation Indicator  
 KL6 = BAT54ADW  
 KL7 = BAT54CDW  
 KL8 = BAT54SDW  
 KLB = BAT54BRW  
 KLA = BAT54TW  
 YM = Date Code Marking  
 Y = Year (ex: N = 2002)  
 M = Month (ex: 9 = September)

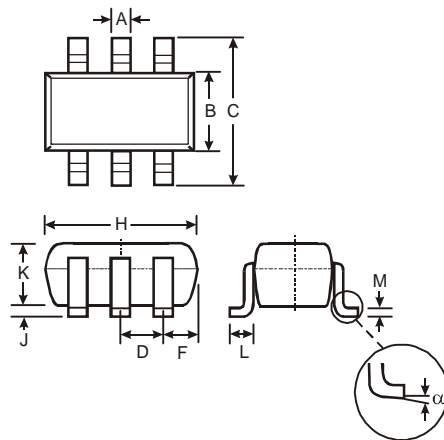
Date Code Key

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	M	N	P	R	S	T	U	V	W	X	Y	Z	A	B	C

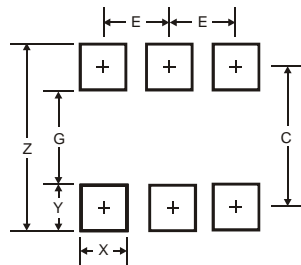
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

## Package Outline Dimensions



SOT-363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.40	0.45
H	1.80	2.20
J	0	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.22
$\alpha$	0°	8°
All Dimensions in mm		

## Suggested Pad Layout



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

### IMPORTANT NOTICE

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