SURFACE MOUNT SCHOTTKY BARRIER DIODE ARRAYS

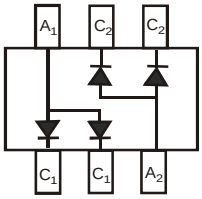
Features

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Devise (Note 3)**

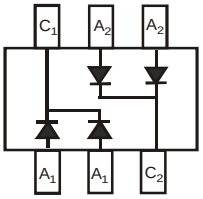
Mechanical Data

- 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). (e3)
- Weight: 0.006 grams (Approximate)

Top View



BAT54ADW*



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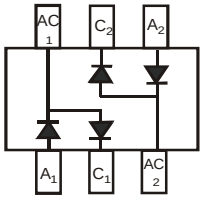

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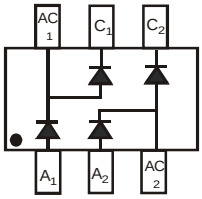
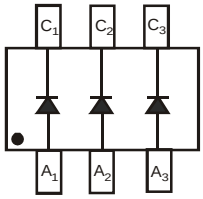


BAT54BRW



BAT54TW

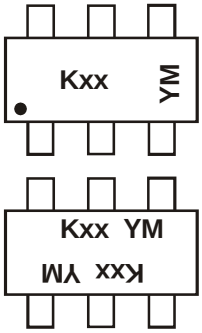
*Symmetrical configuration, no orientation indicator.

Ordering Information (Note 4)

Part Number	Case	Packaging
BAT54ADW-7-F	SOT-363	3,000/Tape & Reel
BAT54CDW-7-F	SOT-363	3,000/Tape & Reel
BAT54SDW-7-F	SOT-363	3,000/Tape & Reel
BAT54BRW-7-F	SOT-363	3,000/Tape & Reel
BAT54TW-7-F	SOT-363	3,000/Tape & Reel

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

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: D = 2016)
M = Month (ex: 9 = September)

Date Code Key

Year	2001	2002	…	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Code	M	N	…	Y	Z	A	B	C	D	E	F	G	H	I	J

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

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	V
Forward Continuous Current (Note 5)	I_F	200	mA
Repetitive Peak Forward Current (Note 5)	I_{FRM}	300	mA
Forward Surge Current (Note 5) @ t < 1.0s	I_{FSM}	600	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	200	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +125	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	30	—	—	V	I_R = 100µA
Forward Voltage (Note 6)	V_F	—	—	240 320 400 500 1,000	mV	I_F = 0.1mA I_F = 1mA I_F = 10mA I_F = 30mA I_F = 100mA
Reverse Leakage Current (Note 6)	I_R	—	—	2.0	µA	V_R = 25V
Total Capacitance	C_T	—	—	10	pF	V_R = 1.0V, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	—	5.0	ns	I_F = 10mA through I_R = 10mA to I_R = 1.0mA, R_L = 100Ω

Notes: 5. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout, which can be found on our website at http://www.diodes.com/package-outlines.html.
6. Short duration pulse test used to minimize self-heating effect.

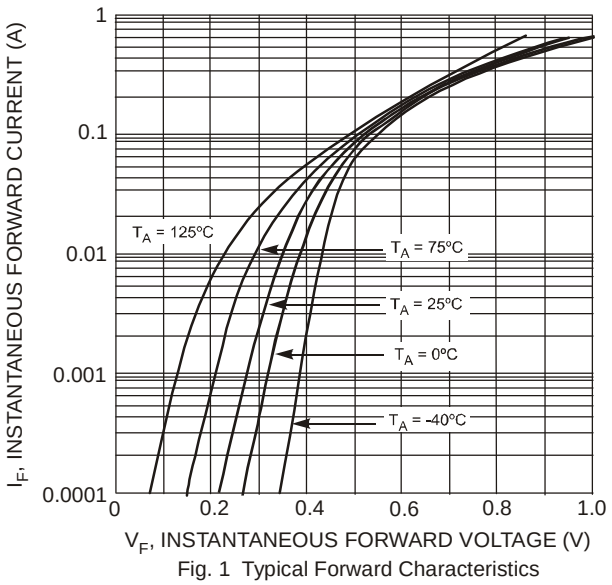


Fig. 1 Typical Forward Characteristics

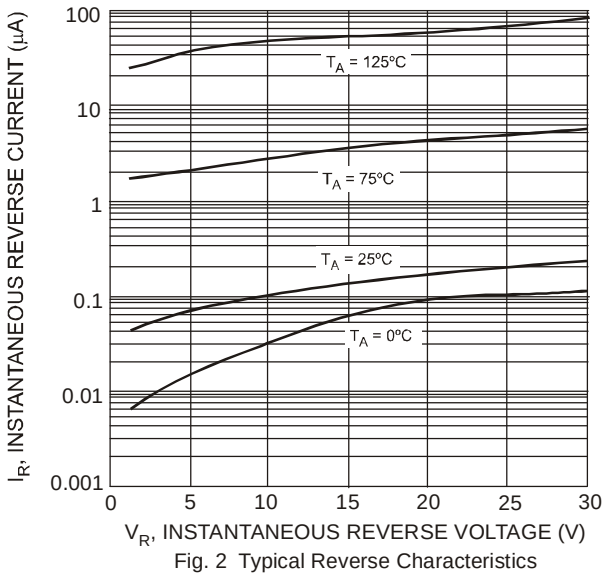


Fig. 2 Typical Reverse Characteristics

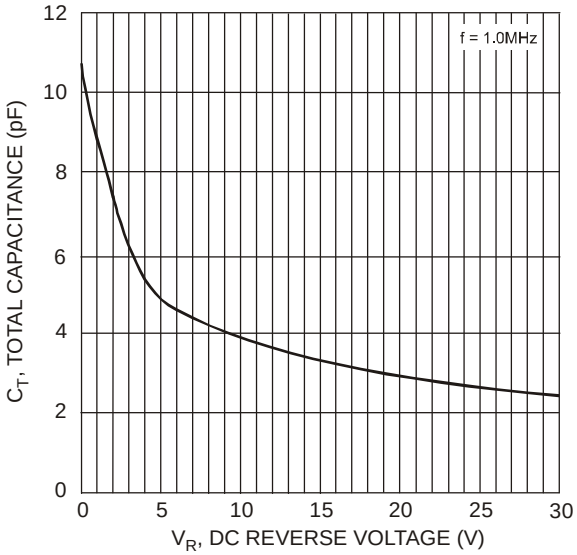


Fig. 3 Total Capacitance vs. Reverse Voltage

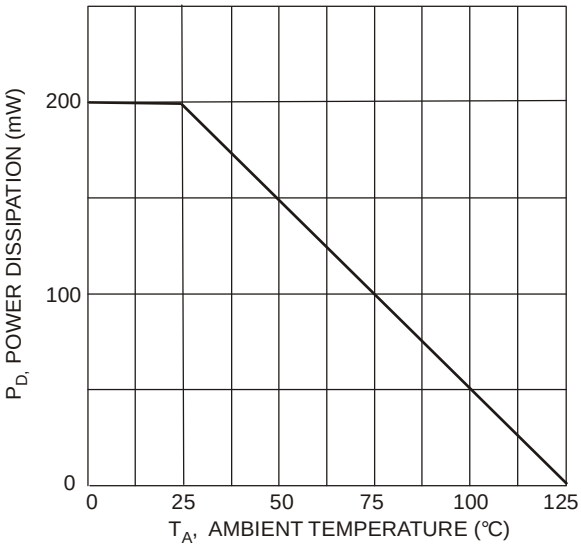
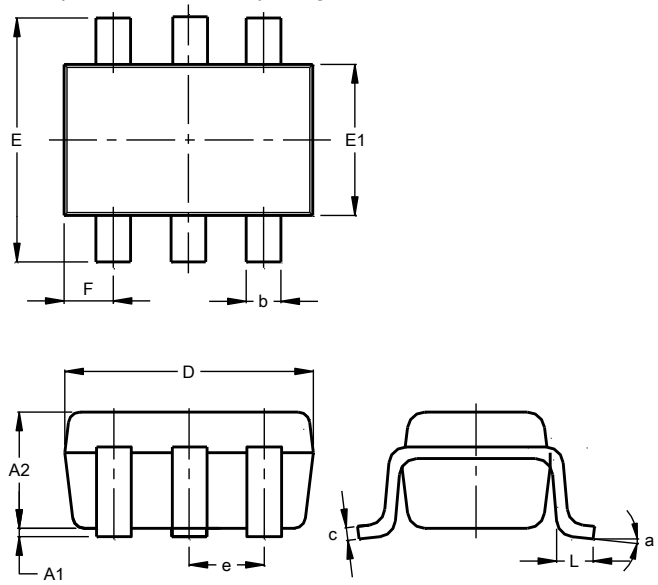


Fig. 4 Power Derating Curve

Package Outline Dimensions

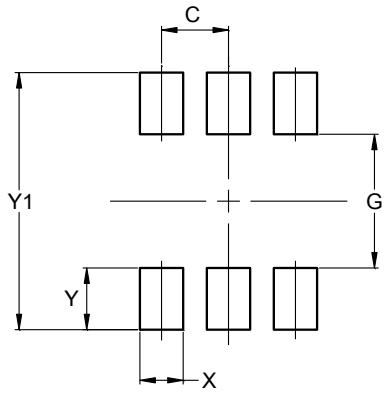
Please see http://www.diodes.com/package-outlines.html for the latest version.



SOT363			
Dim	**Min**	**Max**	**Typ**
A1	0.00	0.10	0.05
A2	0.90	1.00	1.00
b	0.10	0.30	0.25
c	0.10	0.22	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
F	0.40	0.45	0.425
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.420
Y	0.600
Y1	2.500