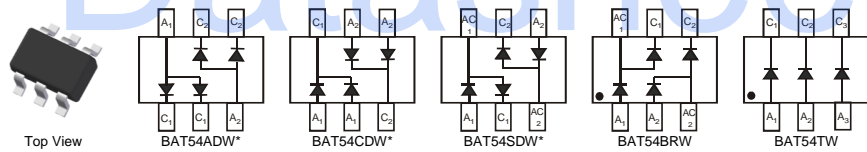


**Features**

- 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" Device (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). (63)
- Weight: 0.006 grams (Approximate)



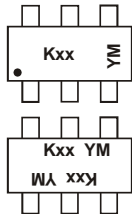
\*Symmetrical configuration, no orientation indicator.

**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](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<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 5)	I <sub>F</sub>	200	mA
Repetitive Peak Forward Current (Note 5)	I <sub>FRM</sub>	300	mA
Forward Surge Current (Note 5)	I <sub>FSM</sub>	600	mA

@ t < 1.0s

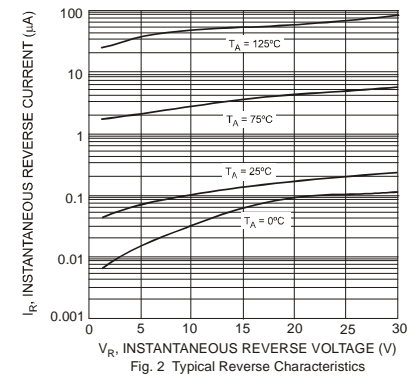
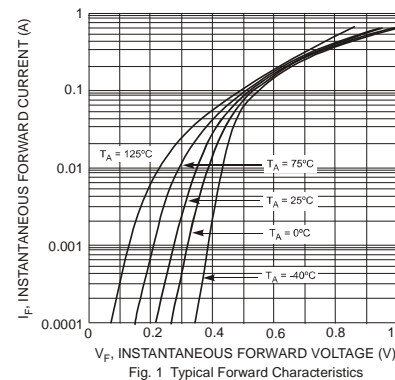
**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P <sub>D</sub>	200	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	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 6)	V <sub>(BR)R</sub>	30	—	—	V	I <sub>R</sub> = 100µA
Forward Voltage (Note 6)	V <sub>F</sub>	—	—	240 320 400 500 1,000	mV	I <sub>F</sub> = 0.1mA I <sub>F</sub> = 1mA I <sub>F</sub> = 10mA I <sub>F</sub> = 30mA I <sub>F</sub> = 100mA
Reverse Leakage Current (Note 6)	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: 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.



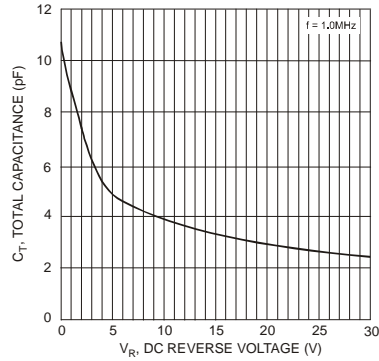


Fig. 3 Total Capacitance vs. Reverse Voltage

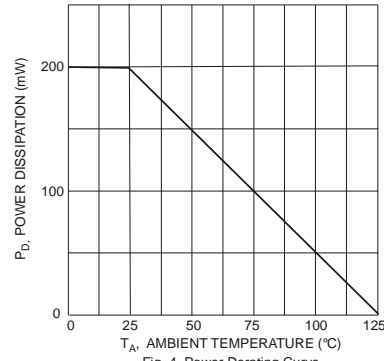
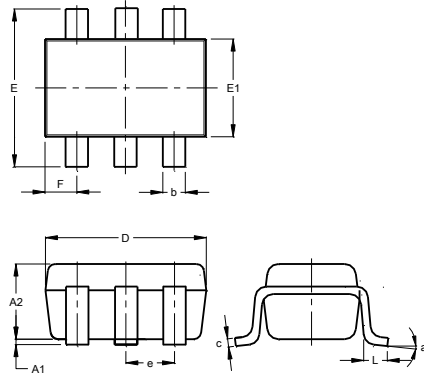


Fig. 4 Power Derating Curve

**Package Outline Dimensions**

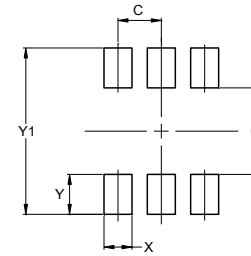
Please see <http://www.diodes.com/package-outlines.html> for the latest version.



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

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