



BAT54W /AW /CW /SW

SURFACE MOUNT SCHOTTKY BARRIER DIODE

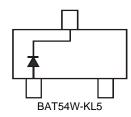
Features

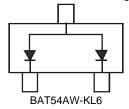
- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Lead Free/RoHS Compliant (Note 2)
- Qualified to AEC-Q101 Standards for High Reliability
- "Green" Device (Note 3 and 4)

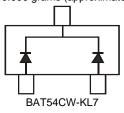
Mechanical Data

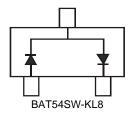
- Case: SOT-323
- Case Material: Molded Plastic, "Green" Molding Compound, Note 5. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagrams Below
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.006 grams (approximate)











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 1)		l _F	200	mA
Repetitive Peak Forward Current (Note 1)		I _{FRM}	300	mA
Forward Surge Current (Note 1)	@ t < 1.0s	I _{FSM}	600	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P _D	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{ hetaJA}$	625	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +125	°C

Notes:

- Mounted on FR-4 PC board with recommended pad layout which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- No purposefully added lead.
- Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.

 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.

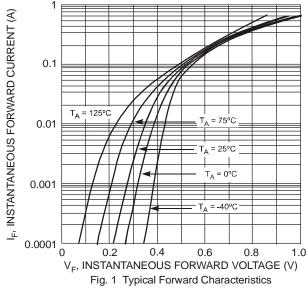


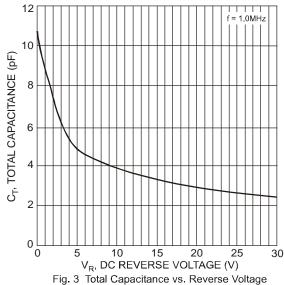
Electrical Characteristics @T_A = 25°C unless otherwise specified

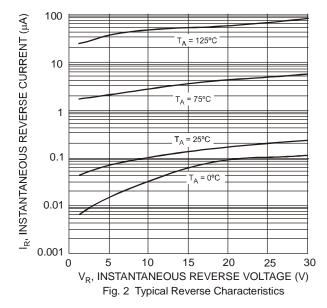
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	30	_	_	V	$I_R = 100 \mu A$
Forward Voltage	V _F	_	_	240 320 400 500 1000	mV	I _F = 0.1mA I _F = 1mA I _F = 10mA I _F = 30mA I _F = 100mA
Reverse Leakage Current (Note 5)	I _R	_	_	2.0	μΑ	V _R = 25V
Total Capacitance	Ст	_	_	10	pF	V _R = 1.0V, f = 1.0MHz
Reverse Recovery Time	t _{rr}	_	_	5.0	ns	$I_F = 10$ mA through $I_R = 10$ mA to $I_R = 1.0$ mA, $R_L = 100\Omega$

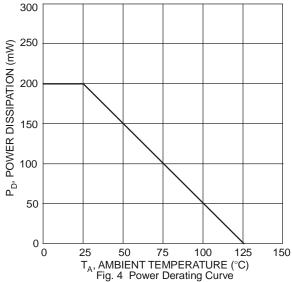
Notes:

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









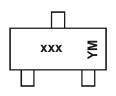


Ordering Information (Note 4 & 6)

Part Number	Case	Packaging
BAT54W-7-F	SOT-323	3000/Tape & Reel
BAT54AW-7-F	SOT-323	3000/Tape & Reel
BAT54CW-7-F	SOT-323	3000/Tape & Reel
BAT54SW-7-F	SOT-323	3000/Tape & Reel

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

Marking Information



xxx = Product Type Marking Code

KL5 = BAT54W

KL6 = BAT54AW

KL7 = BAT54CW

KL8 = BAT54SW

YM = Date Code Marking

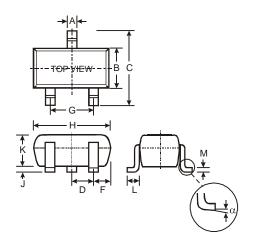
Y = Year (ex: N = 2002)

M = Month (ex: 9 = September)

Date Code Key

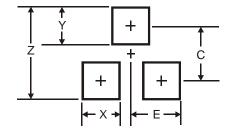
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	L	М	N	Р	R	S	T	U	V	W	Χ	Υ	Z	Α	В	С
Month	Jan	F	eb	Mar	Apr	M	lay	Jun	Jul	Aı	ıg	Sep	Oct	N	ov	Dec
Code	1		2	3	4		5	6	7	8	3	9	0	1	1	D

Package Outline Dimensions



SOT-323							
Dim	Min	Max	Тур				
Α	0.25	0.40	0.30				
В	1.15	1.35	1.30				
С	2.00	2.20	2.10				
D	-	-	0.65				
F	0.30	0.40	0.425				
G	1.20	1.40	1.30				
Н	1.80	2.20	2.15				
7	0.0	0.10	0.05				
K	0.90	1.00	1.00				
١	0.25	0.40	0.30				
M	0.10	0.18	0.11				
α	0°	8°	-				
All Dimensions in mm							

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.8
Х	0.7
Υ	0.9
С	1.9
E	1.0





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