

Product Summary (@ +25°C)

V _{RRM} (V)	I _F (mA)	V _F Max (mV) @ 1mA	I _R Max (μA) @ 25V
30	200	320	2

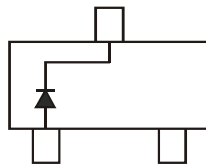
Applications

- SMPS
- DC-DC converters
- Freewheeling diodes
- Reverse polarity protections
- Blocking diodes

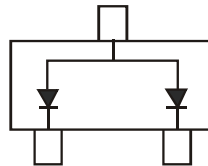
SOT323 (Standard)



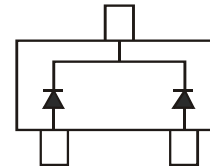
Top View



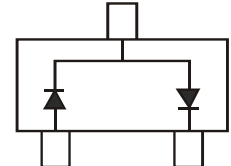
BAT54W



BAT54AW



BAT54CW



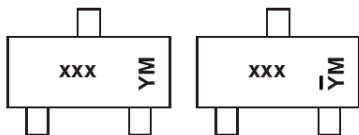
BAT54SW

Ordering Information (Note 4)

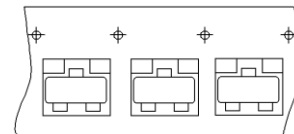
Part Number	Package	Packing	
		Qty.	Carrier
BAT54W-7-F	SOT323 (Standard)	3000	Tape & Reel
BAT54W-13-F	SOT323 (Standard)	10000	Tape & Reel
BAT54AW-7-F	SOT323 (Standard)	3000	Tape & Reel
BAT54AW-13-F	SOT323 (Standard)	10000	Tape & Reel
BAT54CW-7-F	SOT323 (Standard)	3000	Tape & Reel
BAT54CW-13-F	SOT323 (Standard)	10000	Tape & Reel
BAT54SW-7-F	SOT323 (Standard)	3000	Tape & Reel
BAT54SW-13-F	SOT323 (Standard)	10000	Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 2. See <https://www.diodes.com/quality/lead-free/> 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 <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



xxx = Product Type Marking Code
 KL5 = BAT54W
 KL6 = BAT54AW
 KL7 = BAT54CW
 KL8 = BAT54SW
 YM & Y = Date Code Marking
 Y & Y = Year (ex: J = 2022)
 M = Month (ex: 9 = September)



Date Code Key

Year	2003	...	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Code	P	...	J	K	L	M	N	O	P	R	S	T
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 _{θJA}	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	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 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. Mounted on FR-4 PC board with recommended 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.

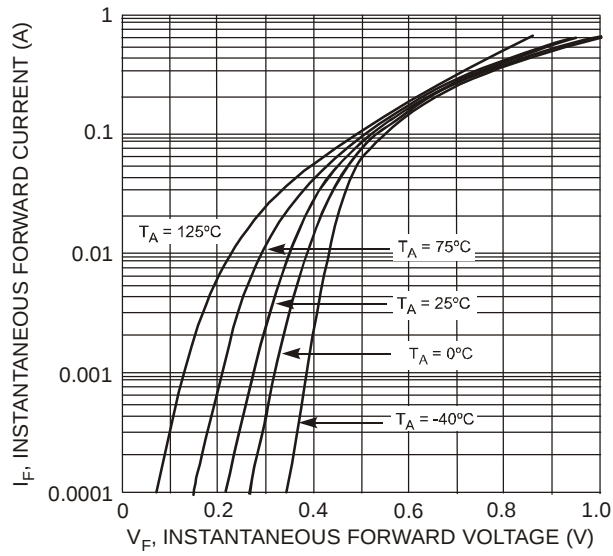


Fig. 1 Typical Forward Characteristics

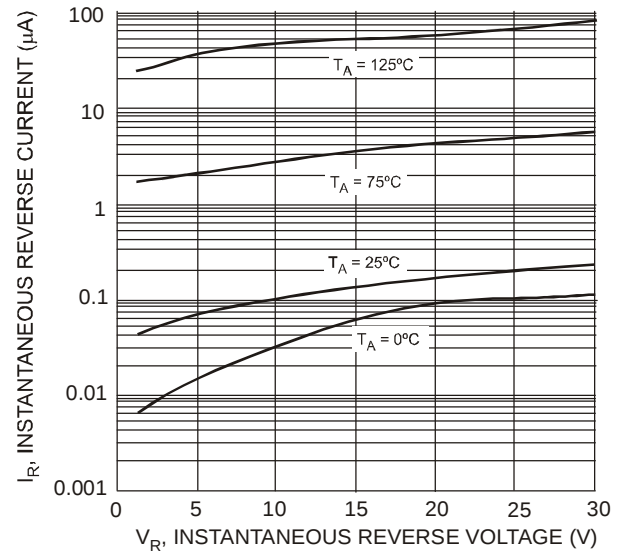


Fig. 2 Typical Reverse Characteristics

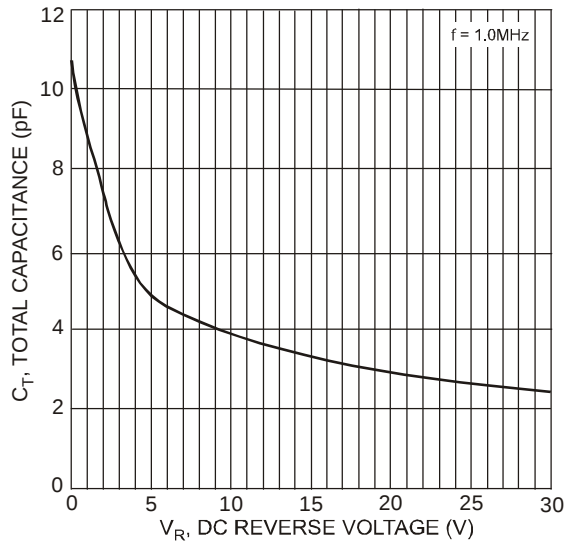


Fig. 3 Total Capacitance vs. Reverse Voltage

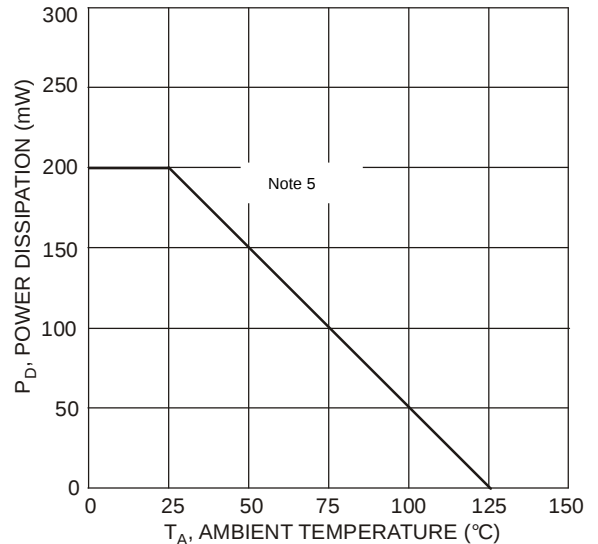
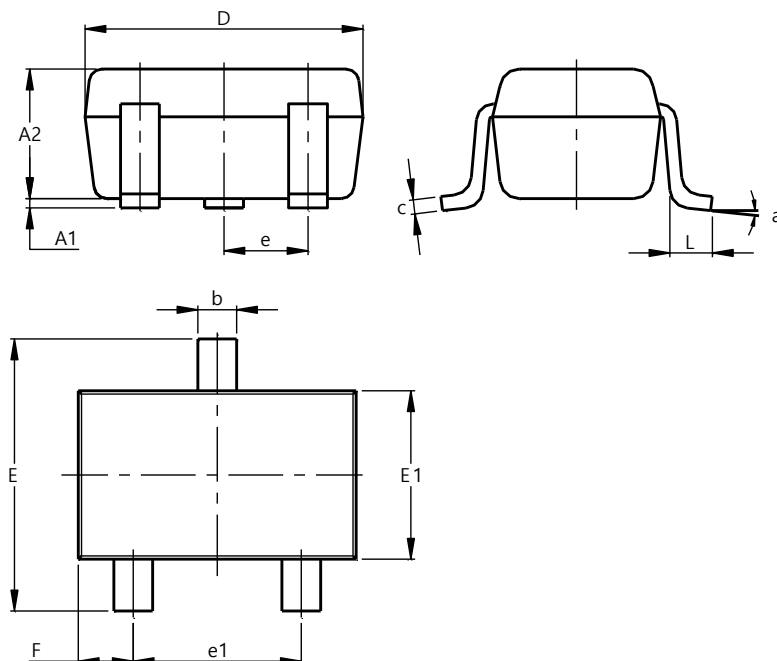


Fig. 4 Power Derating Curve

Package Outline Dimensions

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

SOT323 (Standard)

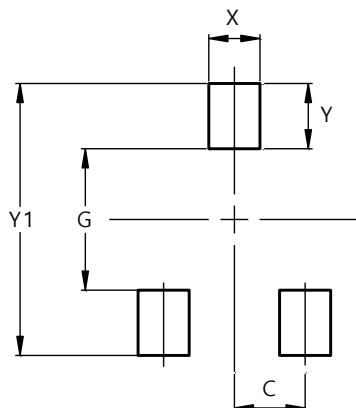


SOT323 (Standard)			
Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.80	1.00	0.90
b	0.20	0.40	0.30
c	0.08	0.18	0.13
D	1.80	2.20	2.00
E	2.00	2.45	2.225
E1	1.15	1.35	1.25
e	--	--	0.65
e1	1.20	1.40	1.30
F	0.25	0.475	0.3625
L	0.25	0.46	0.355
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

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

SOT323 (Standard)



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.470
Y	0.600
Y1	2.500

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