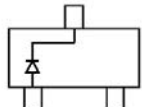
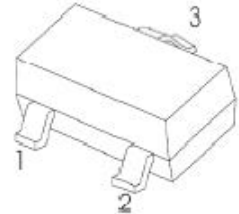


## Fast Switching Speed Diode

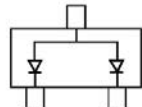
### FEATURES

- Extremely Fast Switching Speed
- Low forward voltage
- AEC-Q101 qualified (Automotive grade with suffix "Q")
- Exsemi technology

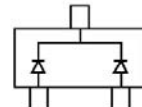
SOT-323



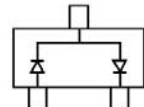
BAT54W Marking: KL5



BAT54AW Marking: KL6



BAT54CW Marking: KL7



BAT54SW Marking: KL8

### MARKING:

BAT54W	BAT54AW	BAT54CW	BAT54SW

Solid dot = Green molding compound device, if none, the normal device.

### MAXIMUM RATINGS ( T<sub>a</sub>=25°C unless otherwise noted )

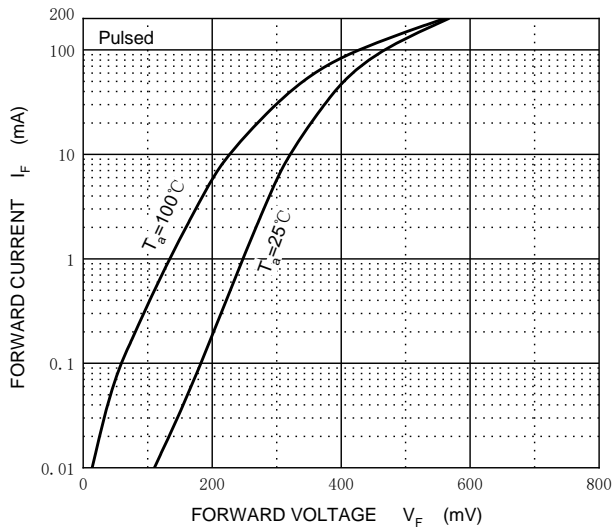
Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	30	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>R</sub>		
Forward Continuous Current	I <sub>FM</sub>	200	mA
Non-repetitive Peak Forward Surge Current @t=8.3ms	I <sub>FSM</sub>	600	mA
Repetitive Peak Forward Current @ t≤1s, δ ≤0.5	I <sub>FRM</sub>	300	mA
Power Dissipation	P <sub>D</sub>	200	mW
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	500	°C/W
Operating Junction Temperature Range	T <sub>j</sub>	-40 ~ +125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 ~ +150	°C

### ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise specified)

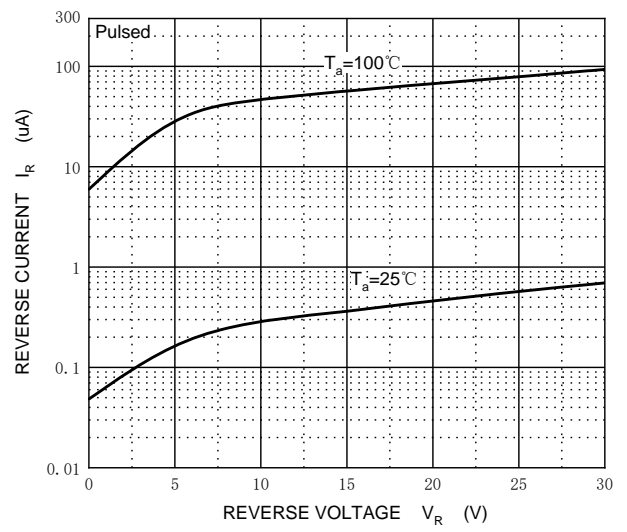
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	V <sub>(BR)</sub>	I <sub>R</sub> =100μA	30			V
Reverse current	I <sub>R</sub>	V <sub>R</sub> =25V			2	μA
Forward voltage	V <sub>F</sub>	I <sub>F1</sub> =0.1mA			0.24	V
		I <sub>F2</sub> =1mA			0.32	V
		I <sub>F3</sub> =10mA			0.40	V
		I <sub>F4</sub> =30mA			0.50	V
		I <sub>F5</sub> =100mA			1	V
Diode capacitance	C <sub>D</sub>	V <sub>R</sub> =1V,f=1MHz			10	pF
Reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> =I <sub>R</sub> =10mA I <sub>rr</sub> =0.1×I <sub>R</sub> ,R <sub>L</sub> =100Ω			5	ns

Typical Characteristics

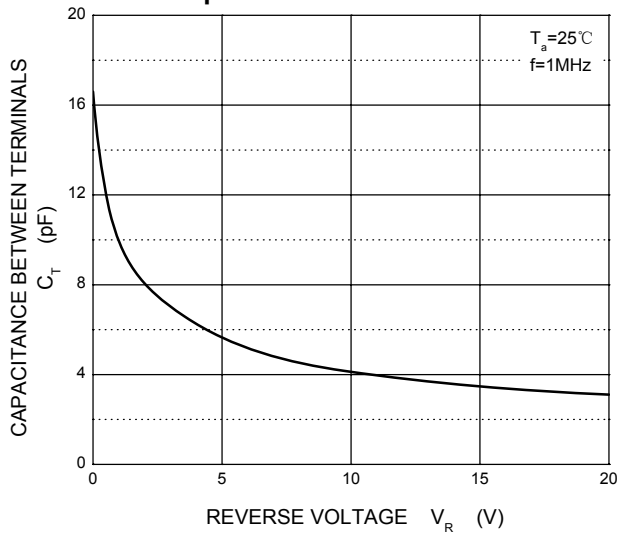
Forward Characteristics



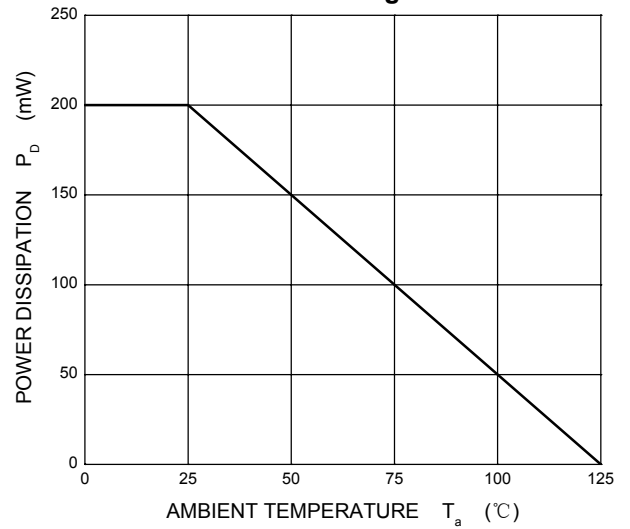
Reverse Characteristics



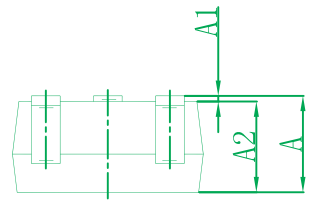
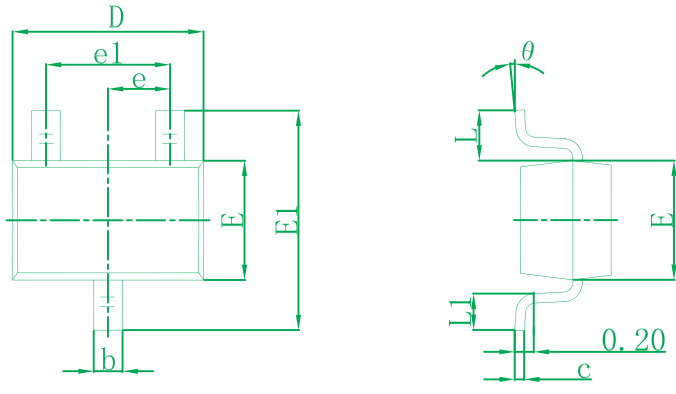
Capacitance Characteristics



Power Derating Curve

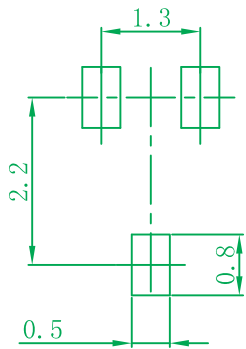


SOT-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
theta	0°	8°	0°	8°

SOT-323 Suggested Pad Layout



Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance: ±0.05mm.  
 3. The pad layout is for reference purposes only.

Ordering information

Device	Package	Shipping
BAT54W/AW/CW/SW	SOT-323	3000/Tape&Reel