

## Surface Mount Schottky Barrier Diodes

**(Pb)** Lead(Pb)-Free

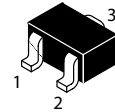
### Features:

- \*Extremely Fast Switching Speed
- \*Low Forward Voltage
- \*Very Small Conduction Losses
- \*Schottky Barrier Diodes Encapsulated in a SOT-323 Package
- \*Lead(Pb)-Free

### Description:

These schottky barrier diodes are designed for high speed switching applications circuit protection, and voltage clamping, Extremely low forward voltage reduces conduction loss, Miniature surface mount package is excellent for hand held and portable applications where space is limited.

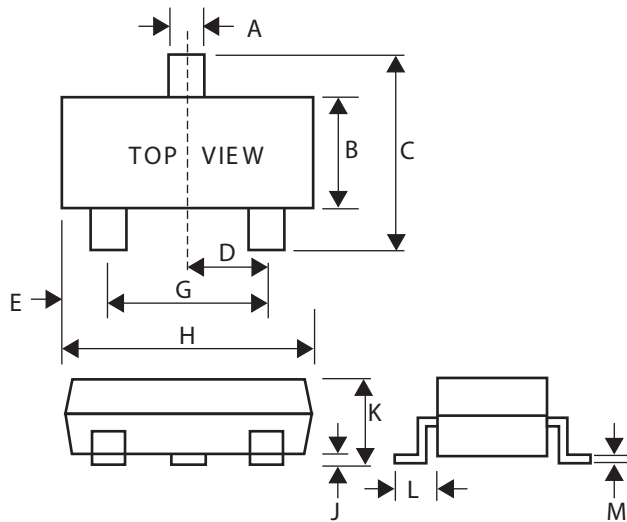
**SMALL SIGNAL**  
**SCHOTTKY DIODES**  
**200m AMPERES**  
**30 VOLTS**



**SOT-323(SC-70)**

## SOT-323 Outline Demensions

Unit:mm



SOT-323		
Dim	Min	Max
<b>A</b>	0.30	0.40
<b>B</b>	1.15	1.35
<b>C</b>	2.00	2.40
<b>D</b>	-	0.65
<b>E</b>	0.30	0.40
<b>G</b>	1.20	1.40
<b>H</b>	1.80	2.20
<b>J</b>	0.00	0.10
<b>K</b>	0.80	1.00
<b>L</b>	0.42	0.53
<b>M</b>	0.10	0.25

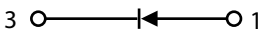
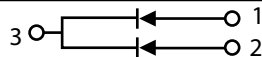
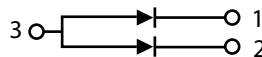
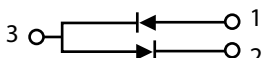
**Maximum Ratings** (T<sub>J</sub>=125°C Unless otherwise noted)

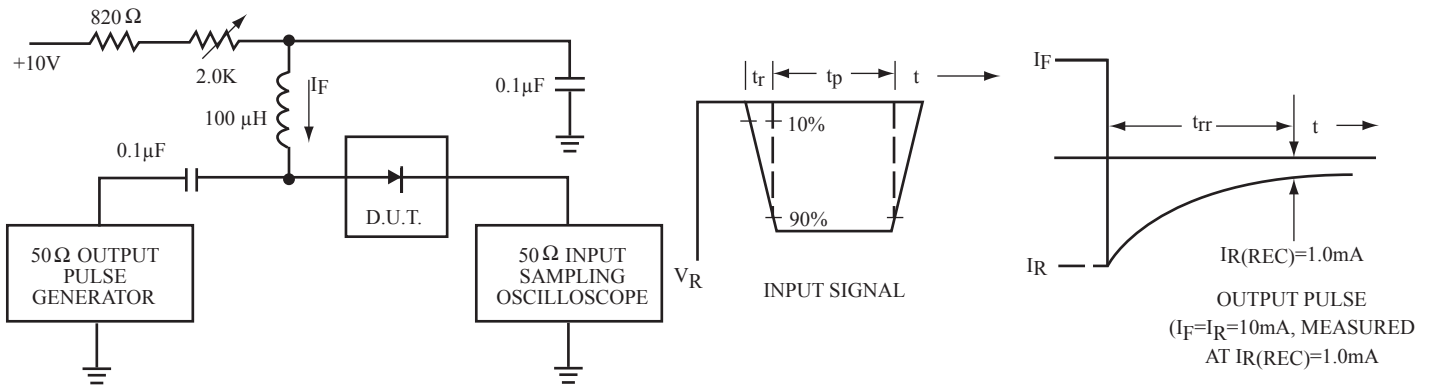
Characteristic	Symbol	BAT54W/CW/AW/SW	Unit
Reverse Voltage	V <sub>R</sub>	30	Volts
Average Rectifier Forward Current	I <sub>F(AV)</sub>	200	mA
Peak Repetitive Forward Current Rated V <sub>R</sub> , Square Wave, 20KHz	I <sub>FRM</sub>	300	mA
Non-Repetitive Forward Current (t≤1.0s)	I <sub>FSM</sub>	600	mA
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

**Electrical Characteristics** (T<sub>A</sub>=25°C Unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I <sub>R</sub> =10μA)	V <sub>(BR)R</sub>	30			Volts
Forward Voltage I <sub>F</sub> =0.1mA I <sub>F</sub> =1.0mA I <sub>F</sub> =10mA I <sub>F</sub> =30mA I <sub>F</sub> =100mA	V <sub>F</sub>		0.22 0.29 0.35 0.41 0.52	0.24 0.32 0.40 0.50 1.00	Volts
Total Capacitance (V <sub>R</sub> =1.0V, f=1.0MHz)	C <sub>T</sub>		7.6	10	pF
Reverse Leakage (V <sub>R</sub> =25V)	I <sub>R</sub>		0.5	2.0	μA <sub>dc</sub>
Reverse Recover Time (I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>R(Rec)</sub> =1.0mA)	T <sub>rr</sub>			5.0	nS

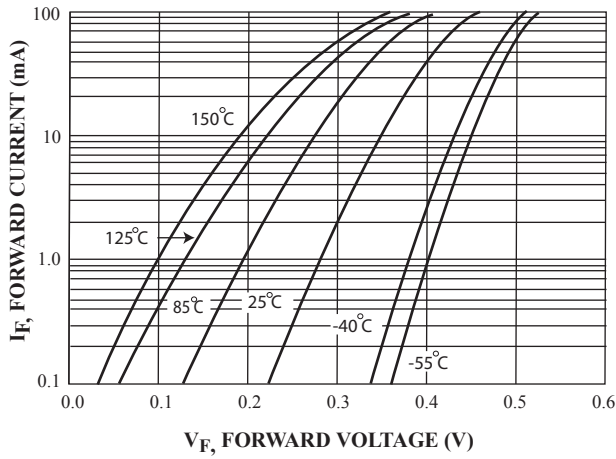
**Device Marking**

Item	Marking	Equivalent Circuit Diagram
BAT54W	B4, KL5	
BAT54CW	L3, KL7, 5C	
BAT54AW	B7, KL6	
BAT54SW	B8, KL8	

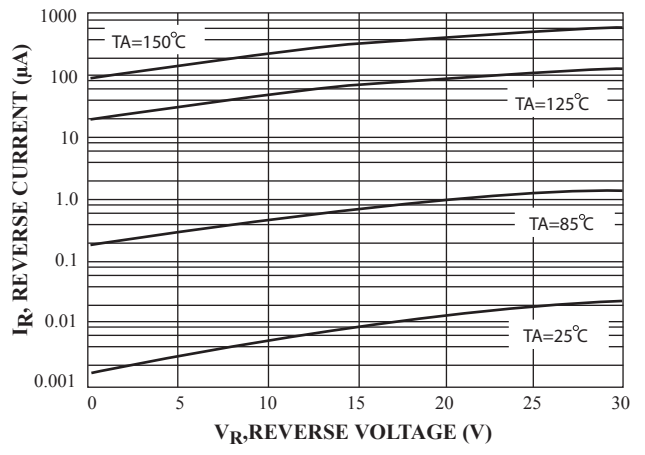


- Notes: 1. A 2.0 kΩ variable resistor for a Forward Current ( $I_F$ ) of 10 mA  
 2. Input pulses is adjusted so  $I_R(\text{peak})$  is equal to 10 mA  
 3.  $t_p \gg t_{rr}$

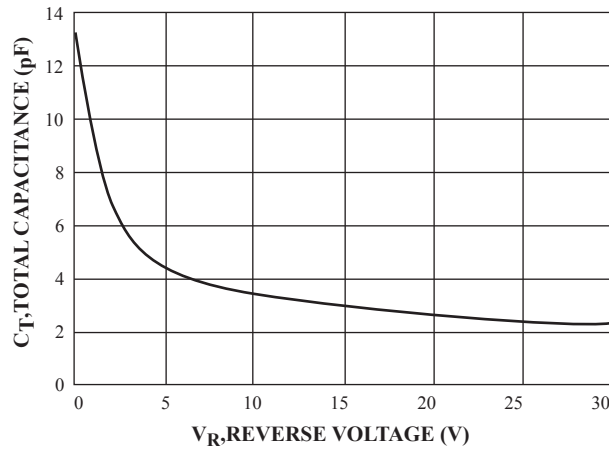
**FIG.1 Recovery Time Equivalent Test Circuit**



**FIG.2 Forward Voltage**



**FIG.3 Leakage Current**



**FIG.4 Total Capacitance**