

BAT54W

ROHS

Plastic-Encapsulate Schottky Barrier Diode

Features

- ◆ Fast Switching
- ◆ Low Forward Voltage Drop
- ◆ Available in Lead Free Version
- ◆ PN Junction Guard Ring for Transient and ESD Protection

Mechanical Data

- ◆ Case: SOD-123
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Polarity: Color Band Denotes Cathode End
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Device Marking: L9

Mechanical Characteristics

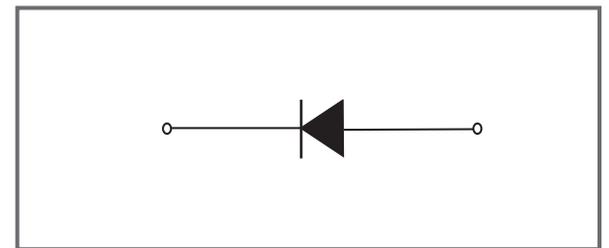
Parameter	Symbol	Value	Units
Repetitive Peak Reverse Voltage	VRRM	30	V
Reverse Voltage	VR	30	V
Repetitive Peak Forward Current	IFM	0.2	A
Average Rectified Output Current	IO	0.1	A
Non-Repetitive Peak Forward Surge Current @t=8.3ms	IFSM	0.6	A
Power Dissipation	PD	0.5	W
Thermal Resistance Junction to Ambient	R _{θJA}	200	°C/W
Junction Temperature Range	TJ	-40~+125	°C
Storage Temperature Range	Tstg	-55~+150	°C



www.unsemi.com.tw



Functional Diagram



Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	Test Conditions	Value		Units
			Min.	Max.	
Reverse Current	I_R	$V_R=25V$	-	2.0	μA
Forward Voltage	V_F	$I_F=0.1mA$	-	0.24	V
		$I_F=1.0mA$	-	0.32	V
		$I_F=10mA$	-	0.4	V
		$I_F=30mA$	-	0.5	V
		$I_F=100mA$	-	1.0	V
Capacitance Between Terminals	C_T	$V_R=1V, f=1MHz$	-	10	pF
Reverse recovery time	t_{rr}	$I_F=10mA, I_R=10mA \text{ to } 1mA, R_L=100\Omega$	-	5.0	nS

Electrical Characteristics Curves

Fig.1 Forward Characteristics

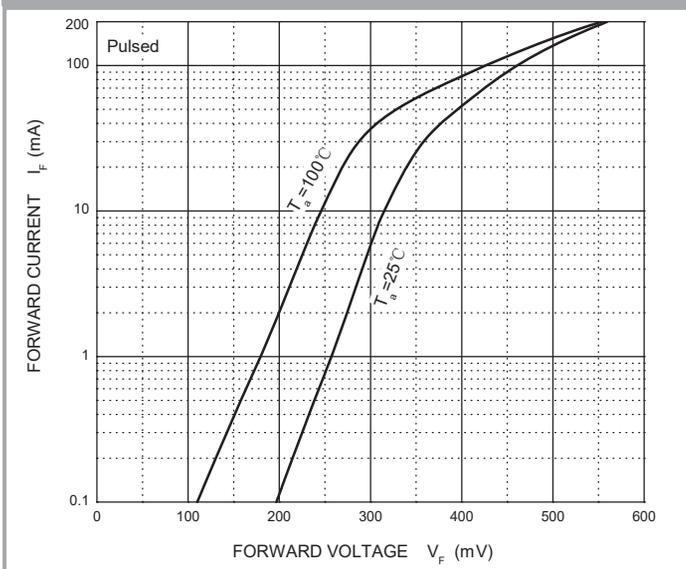
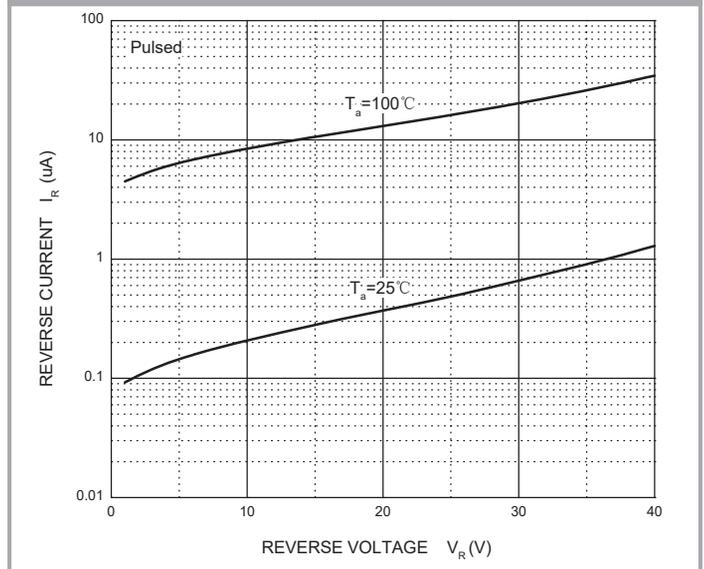


Fig. 2 Reverse Characteristics



Electrical Characteristics Curves

Fig.3 Capacitance Characteristics

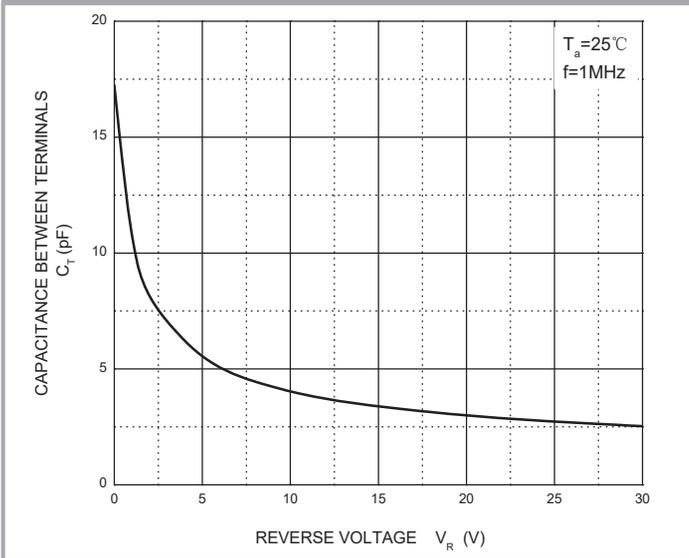
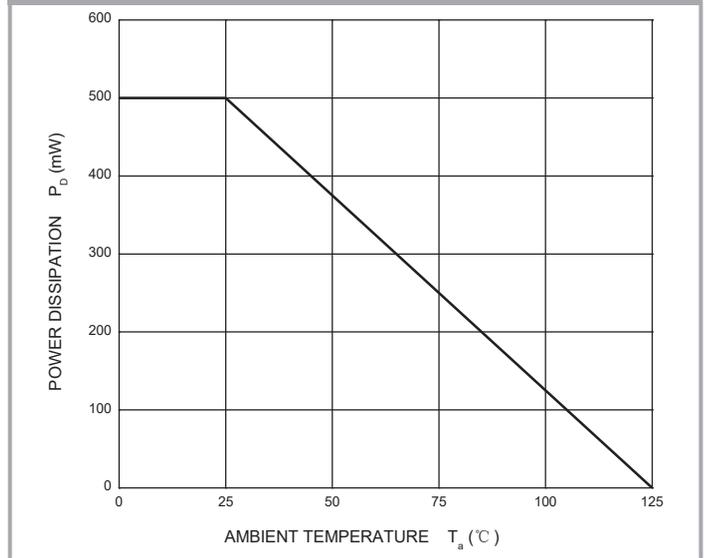
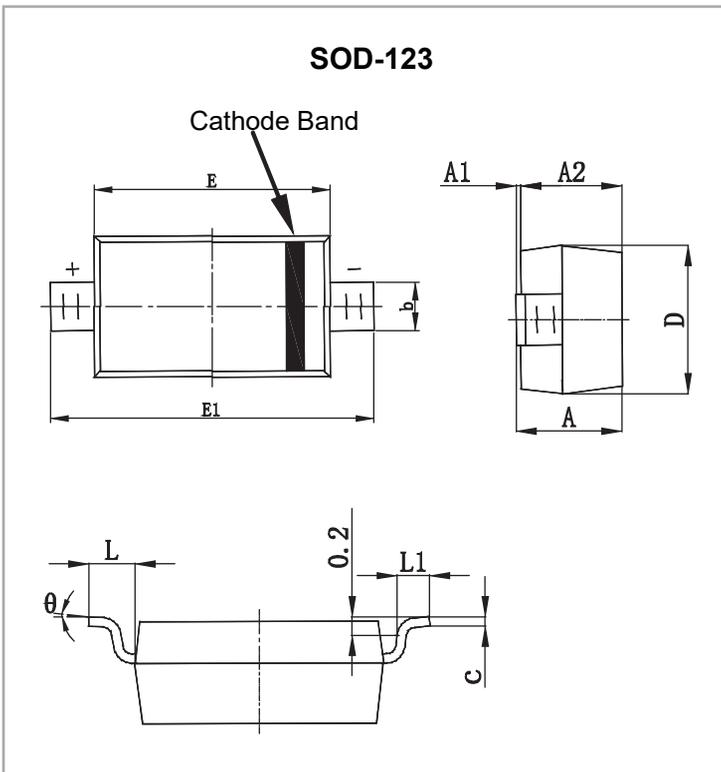


Fig. 4 Power Derating Curve



Package Outline & Dimensions



Dimensions	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	0.041	0.049	1.050	1.250
A1	0	0.004	0	0.100
A2	0.041	0.045	1.050	1.150
b	0.018	0.026	0.450	0.650
c	0.003	0.006	0.080	0.150
D	0.059	0.067	1.500	1.700
E	0.102	0.110	2.600	2.800
E1	0.140	0.152	3.550	3.850
L	0.020REF		0.500 REF	
L1	0.010	0.018	0.250	0.450
θ	0°	8°	0°	8°

Disclaimer

UNSEMI RESERVES THE RIGHT TO MAKE CHANGE ON OUR PRODUCTS , PRODUCTS SPECIFICATION AND DATA WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

UN SEMICONDUCTOR LIMITED its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "UNSEMI") does not give any representations or warranties for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

In no event shall UNSEMI be liable for any indirect, incidental, punitive, special or consequential damages (including any and all implied warranties, warranties of fitness for particular purpose, non-infringement and merchantability.) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory.

Statements regarding the suitability of products for certain types of applications are based on UNSEMI knowledge of typical requirements that are often placed on UNSEMI products in generic applications. Such statements are not binding, statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify UNSEMI's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Unless otherwise agreed in writing, UNSEMI product is not designed, authorized or warranted to be suitable for use in medical life-saving, or life-sustaining application , nor in applications where failure or malfunction of a UNSEMI product can reasonably be expected to result in personal injury, death or severe property or environmental damage. UNSEMI and its suppliers accept no liability for inclusion or use of UNSEMI products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

All referenced brands, product names, service names and trademarks are the property of their respective owners.