

DATA SHEET

SWITCHING DIODE
GENERAL PURPOSE

1N4148W

RoHS compliant & Halogen free

Product specification— December 03, 2023 V.1



Switching Diode

Features

- SOD-123 package
- Fast switching
- Halogen and Antimony Free(HAF), RoHS compliant
- Marking code:W1



Pin Configuration

Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Value	Unit
Peak Reverse Voltage	V_{RM}	100	V
Reverse Voltage	V_R	75	V
Average Rectified Forward Current	$I_{F(AV)}$	150	mA
Peak Forward Current	I_{FM}	300	mA
Non-repetitive Peak Forward Surge Current	I_{FSM}	0.5 1 4	A
	at t = 1s at t = 1ms at t = 1us		
Power Dissipation	P_{tot}	400	mW
Thermal Resistance from Junction to Ambient Air	$R_{\theta JA}$	312	°C/W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 65 to + 150	°C

Characteristics at Ta = 25°C

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 1 \mu A$	$V_{(BR)R}$	75	-	V
Forward Voltage at $I_F = 1 \text{ mA}$ at $I_F = 10 \text{ mA}$ at $I_F = 50 \text{ mA}$ at $I_F = 150 \text{ mA}$	V_F	- - - -	0.715 0.855 1 1.25	V
Peak Reverse Current at $V_R = 75 \text{ V}$ at $V_R = 20 \text{ V}$ at $V_R = 75 \text{ V}, T_J = 150^\circ\text{C}$ at $V_R = 25 \text{ V}, T_J = 150^\circ\text{C}$	I_R	- - - -	1 25 50 30	μA nA μA μA
Total Capacitance at $V_R = 0 \text{ V}, f = 1 \text{ MHz}$	C_T	-	2	pF
Reverse Recovery Time at $I_F = 10 \text{ mA}, I_{rr} = 0.1 \cdot I_R, V_R = 6 \text{ V}, R_L = 100 \Omega$	t_{rr}	-	4	ns

Electrical Characteristic Curves

Figure 1. Power Dissipation vs. Ambient Temperature

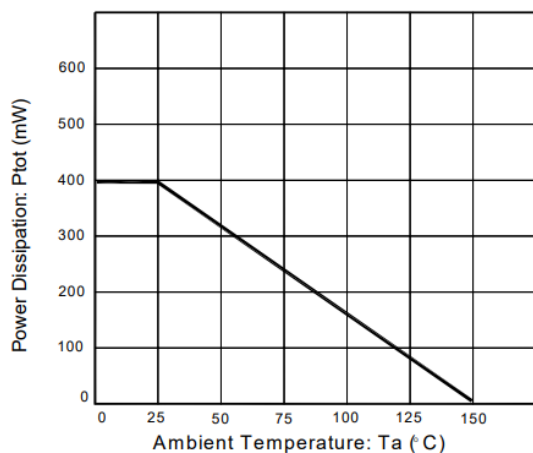


Figure 2. Total Capacitance vs. Reverse Voltage

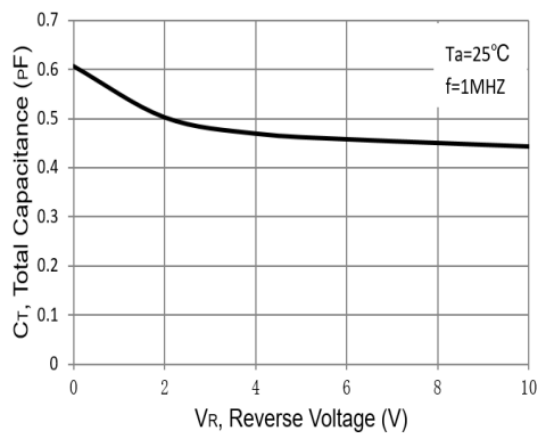


Figure 3. Reverse Current vs. Reverse Voltage

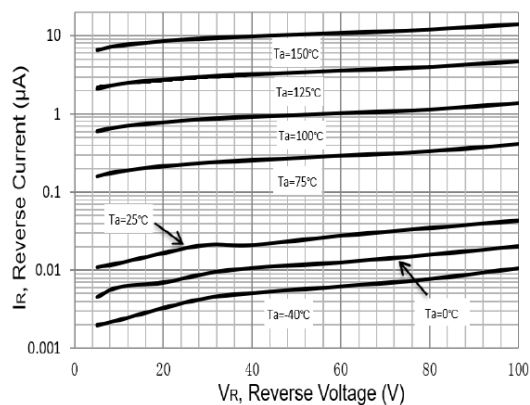
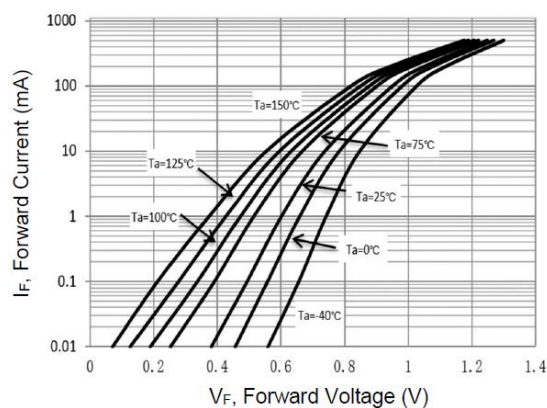
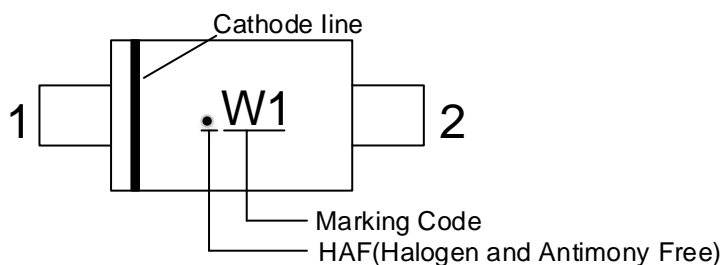


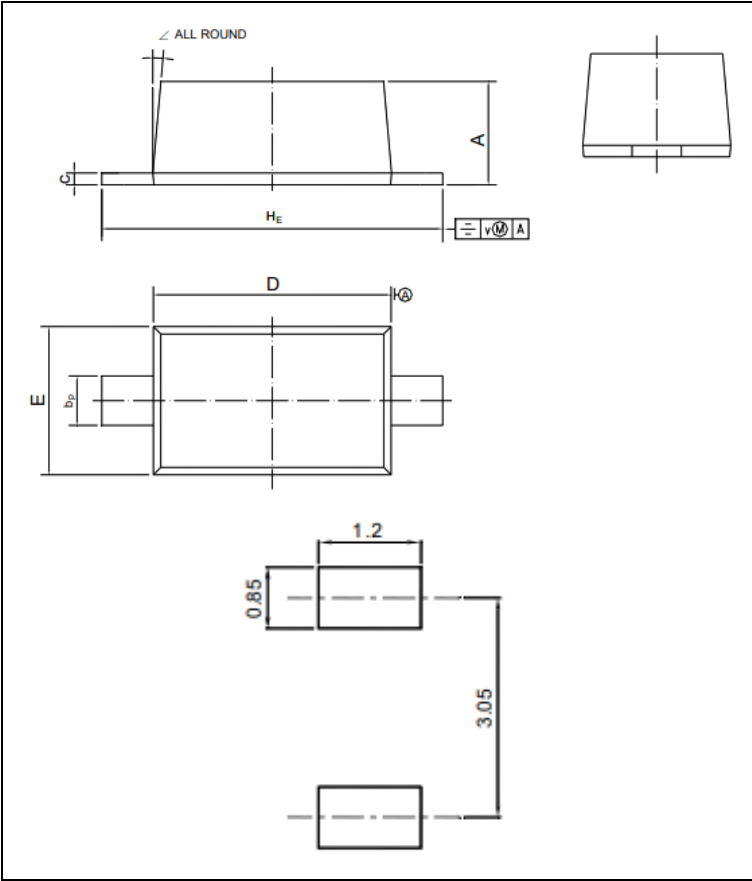
Figure 4. Forward Characteristics



Marking Code

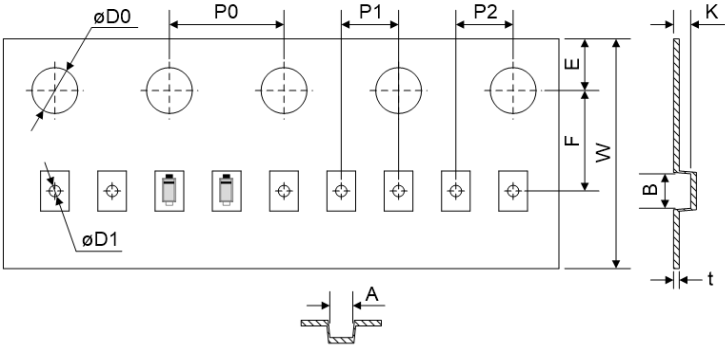


Dimensions (SOD-123)

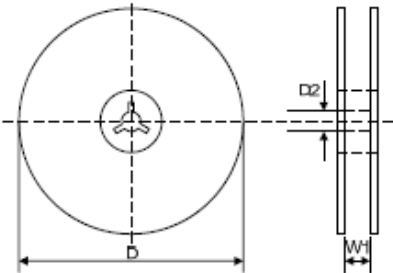
	Symbol	Dimension (mm)			
		Millimeters		Inches	
		Min.	Max.	Min.	Max.
	A	1.05	1.15	0.041	0.045
	bp	0.50	0.60	0.020	0.024
	c	0.100	0.135	0.004	0.005
	D	2.60	2.70	0.102	0.106
	E	1.55	1.65	0.061	0.065
	H _E	3.55	3.85	0.140	0.152

Packaging

Tape



Reel



Symbol	Dimension(mm)
W	8.3max.
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.10
D0	Φ1.5±0.1
D1	Φ1.3max.
E	1.75±0.10
F	3.50±0.05
A	1.80±0.10
B	4.00±0.10
K	1.30±0.10
t	0.25max.
D	Φ178max.
D2	Φ13.0±0.50
W1	8.4+1.5
Quantity: 3000PCS	

LEGAL DISCLAIMER

YAGEO, its distributors and agents (collectively, "YAGEO"), hereby disclaims any and all liabilities for any errors, inaccuracies or incompleteness contained in any product related information, including but not limited to product specifications, datasheets, pictures and/or graphics. YAGEO may make changes, modifications and/or improvements to product related information at any time and without notice.

YAGEO makes no representation, warranty, and/or guarantee about the fitness of its products for any particular purpose or the continuing production of any of its products. To the maximum extent permitted by law, YAGEO disclaims (i) any and all liability arising out of the application or use of any YAGEO product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for a particular purpose, non-infringement and merchantability.

YAGEO products are designed for general purpose applications under normal operation and usage conditions. Please contact YAGEO for the applications listed below which require especially high reliability for the prevention of defects which might directly cause damage to the third party's life, body or property: Aerospace equipment (artificial satellite, rocket, etc.), Atomic energy-related equipment, Aviation equipment, Disaster prevention equipment, crime prevention equipment, Electric heating apparatus, burning equipment, Highly public information network equipment, data-processing equipment, Medical devices, Military equipment, Power generation control equipment, Safety equipment, Traffic signal equipment, Transportation equipment and Undersea equipment, or for any other application or use in which the failure of YAGEO products could result in personal injury or death, or serious property damage. Particularly **YAGEO Corporation and its affiliates do not recommend the use of commercial or automotive grade products for high reliability applications or manned space flight.**

Information provided here is intended to indicate product specifications only. YAGEO reserves all the rights for revising this content without further notification, as long as products are unchanged. Any product change will be announced by PCN.