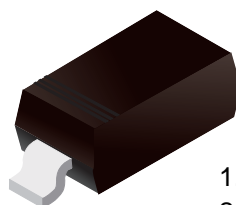


SCHOTTKY DIODE

■ Features

- Low Forward Voltage Drop
- Fast Switching Time
- Surface Mount Package Ideally Suited for Automatic Insertion



1.Cathode
2.Anode

■ Simplified outline(SOD-123)

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Working Peak Reverse Voltage	V_{RWM}	30	V
DC Blocking Voltage	V_R	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Forward Continuous Current (Note 1)	I_{FM}	500	mA
Repetitive Peak Forward Current (Note 1) @ $t < 1.0\text{s}$	I_{FRM}	200	mA
Non-Repetitive Peak Forward Surge Current @ $t < 10\text{ms}$	I_{FSM}	4	A
Power Dissipation	P_d	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to + 150	$^\circ\text{C}$

Note 1

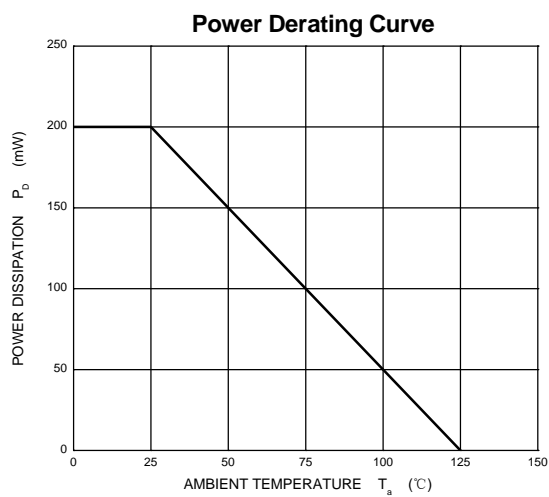
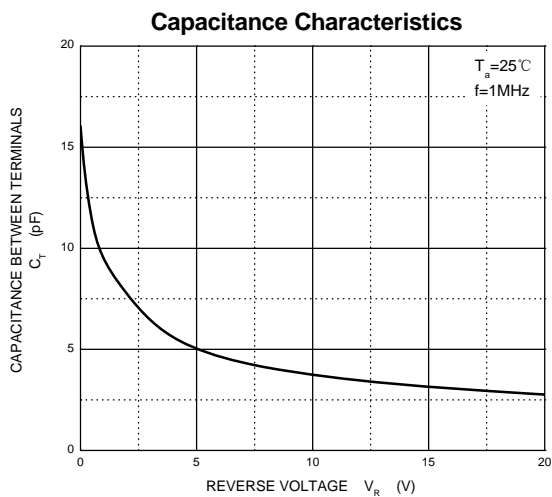
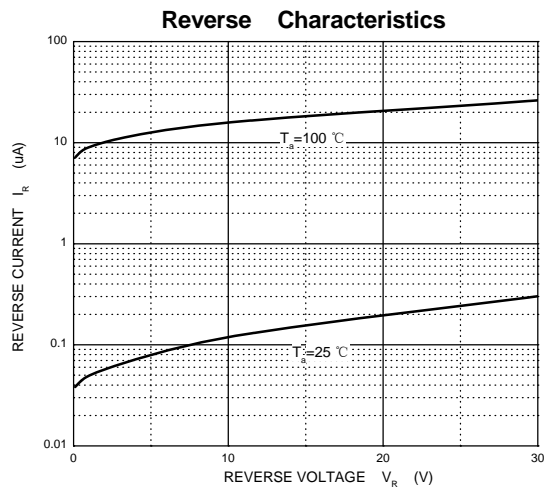
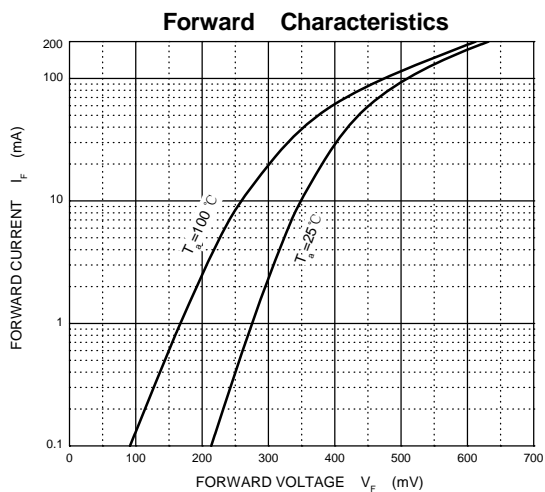
1. Part mounted on FR-4 board with recommended pad layout

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

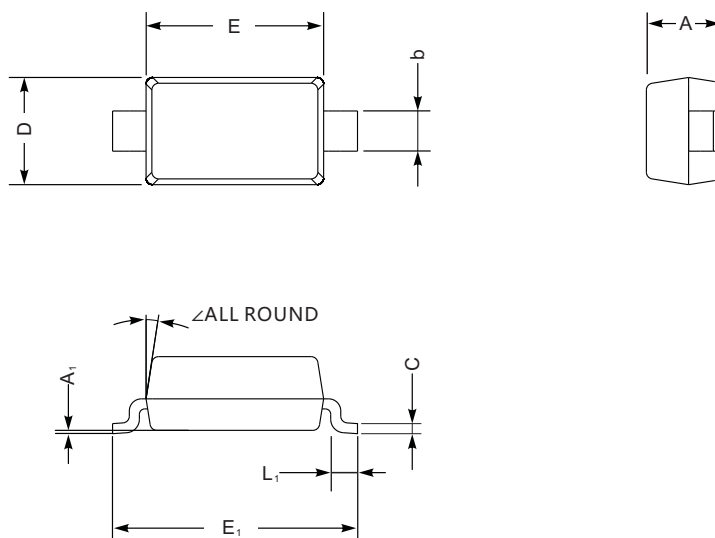
Parameter	Symbol	Conditions	Min	Max	Unit
Reverse Breakdown Voltage (Note 2)	V_R	$I_R = 100 \mu\text{A}$	30		V
Forward Voltage Drop (Note 2) BAT42W	V_{RM}	$I_F = 10 \text{mA}$		0.4	V
		$I_F = 50 \text{mA}$		0.65	
Forward Voltage Drop (Note 2) BAT43W	V_{RM}	$I_F = 2.0 \text{mA}$	0.26	0.33	V
		$I_F = 15 \text{mA}$		0.45	
Peak Reverse Current (Note 2)	I_{RM}	$V_R = 25\text{V}$		500	nA
		$V_R = 25 \text{V}, T_j = 100^\circ\text{C}$		100	μA
Total Capacitance	C_T	$V_R = 1.0 \text{V}, f = 1.0\text{MHz}$		10	pF
Reverse Recovery Time	t_{rr}	$I_F = I_R = 10 \text{mA},$ $I_{rr} = 0.1 \times I_R, R_L = 100 \Omega$		5.0	ns
Rectification Efficiency	η_V	$R_L = 15 \Omega, C_L = 300\text{pF},$ $f = 45\text{MHz}, V_{RF} = 2.0\text{V}$	80		%

Note

- 2.Short duration pulse test used to minimize self-heating effect.



■ SOD-123



SOD-123 mechanical data

UNIT		A	C	D	E	E ₁	L ₁	b	A ₁	∠
mm	max	1.3	0.22	1.8	2.8	3.9	0.45	0.7	0.2	9°
	min	0.9	0.09	1.5	2.5	3.6	0.25	0.5	—	
mil	max	51	8.7	71	110	154	18	28	8	
	min	35	3.5	59	98	142	10	20	—	

■ The recommended mounting pad size

