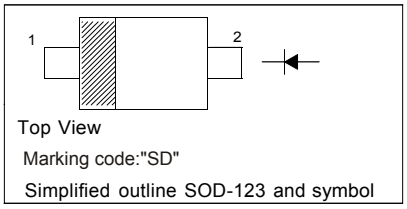
SOD-123 Plastic-Encapsulate Diodes

B0520LW SCHOTTKY BARRIER DIODE

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View
Marking code:"SD"
Simplified outline SOD-123 and symbol

Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance
- Also Available in Lead Free Version

Maximum Ratings @ T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	B0520LW	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	V
Average Rectified Output Current @ T_L = 90°C	I_O	0.5	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	5.5	A
Power Dissipation (Note 1)	P_d	500	mW
Typical Thermal Resistance Junction to Ambient (Note 1)	R_{SJA}	244	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +125	°C
Voltage Rate of Change	dv/dt	1000	V/μs

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	B0520LW	Unit	Test Conditions
Minimum Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	20	V	I_R = 250μA
Maximum Forward Voltage Drop (Note 2)	V_{FM}	0.300 0.385 0.220 0.330	V	I_F = 0.1A, T_j = 25°C I_F = 0.5A, T_j = 25°C I_F = 0.1A, T_j = 100°C I_F = 0.5A, T_j = 100°C
Maximum Leakage Current (Note 2)	I_{RM}	75 250	μA	V_R = 10V, T_j = 25°C V_R = 20V, T_j = 25°C
		5.0 8.0	mA	V_R = 10V, T_j = 100°C V_R = 20V, T_j = 100°C
Total Capacitance	C_T	170	pF	f = 1MHz, V_R = 0V DC

Notes: 1. Device mounted on FR-4 PC board, 2"x2", 2 oz. Copper, single sided, Cathode pad dimensions 0.75"x1.0", Anode pad dimensions 0.25"x1.0".
2. Pulse Test: Pulse width = 300μs, Duty Cycle ≤ 2%.
3. dv/dt measured at rated V_R.

Typical Characteristics

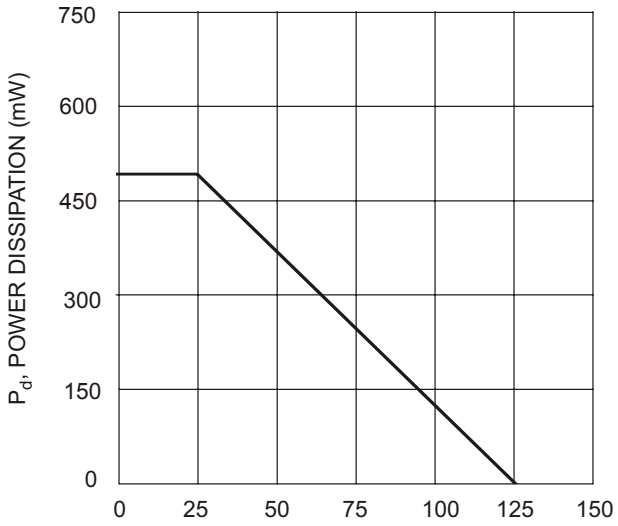


Fig. 1 Power Derating Curve

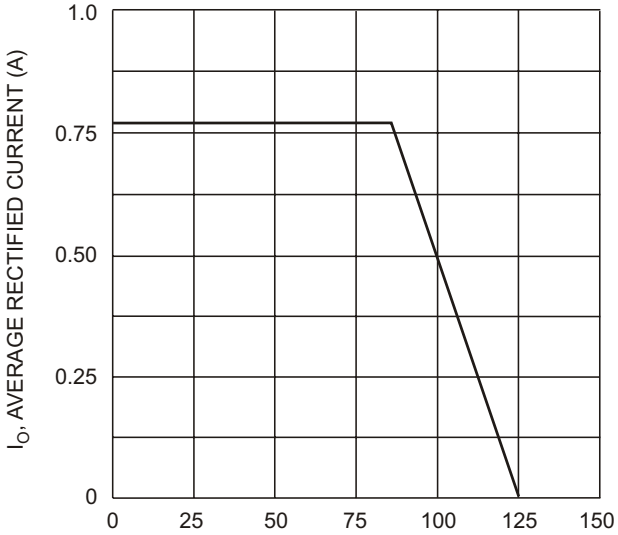


Fig. 2 Forward Current Derating Curve

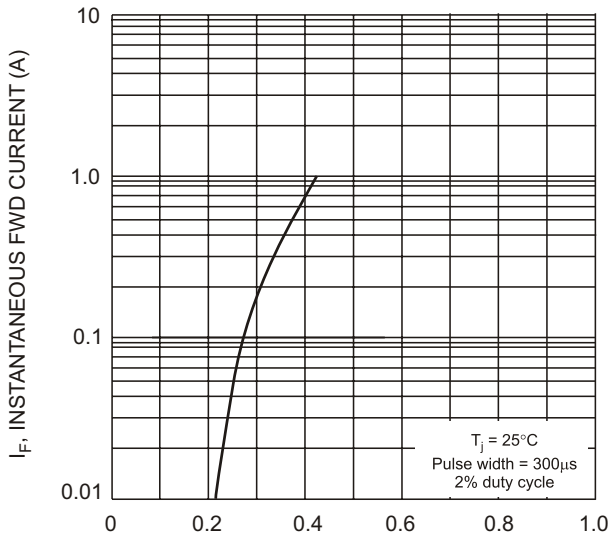


Fig. 3 Typical Forward Characteristics

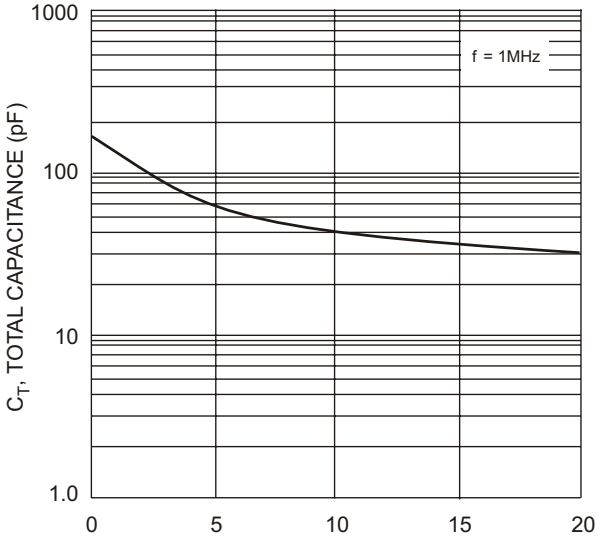
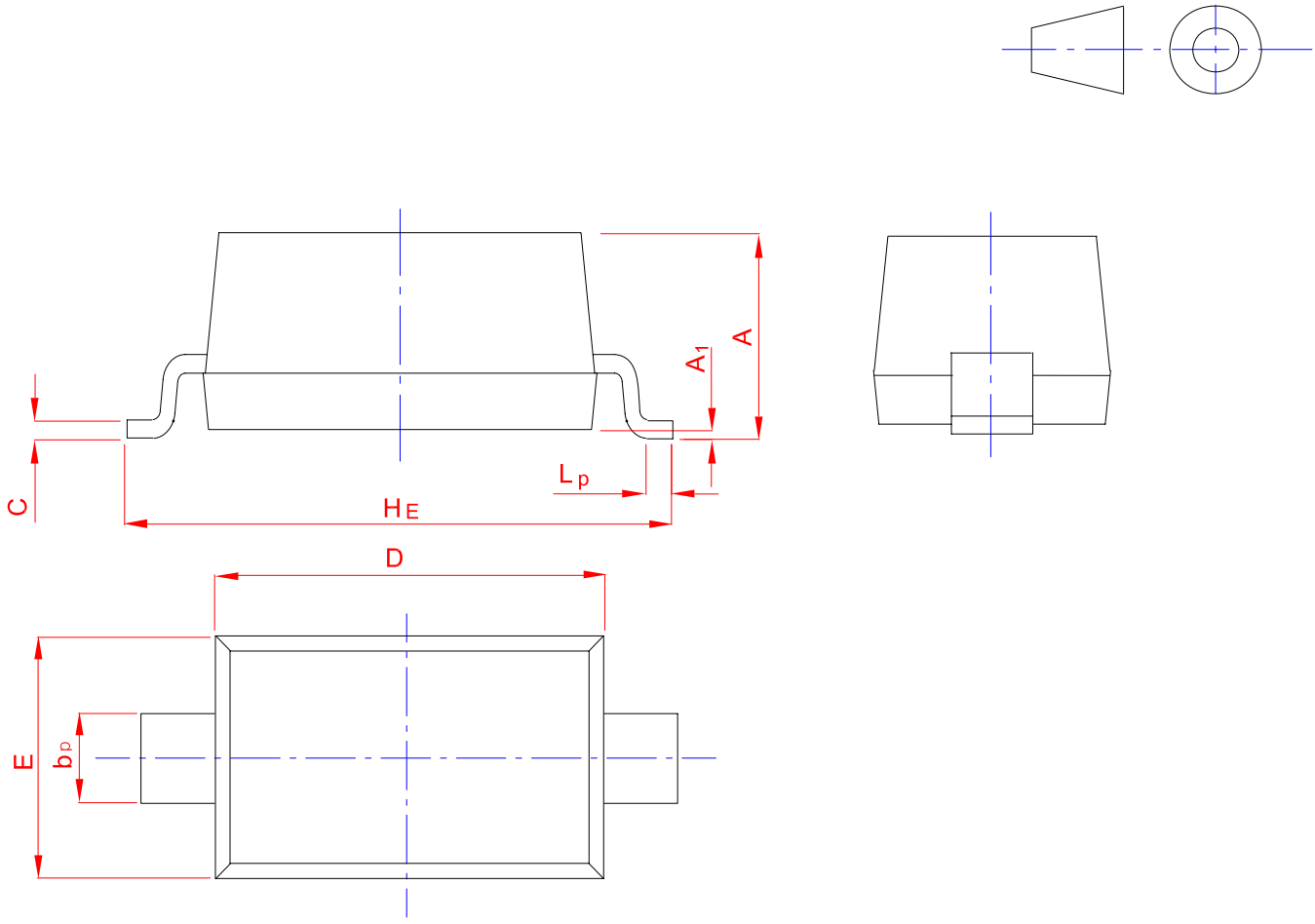


Fig. 4 Typ. Total Capacitance vs Reverse Voltage

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads **SOD-123**



UNIT	A	b_p	C	D	E	H_E	A_1	L_p
mm	1.20 0.90	0.60 0.50	0.135 0.100	2.75 2.55	1.65 1.55	3.85 3.55	0.10 0.01	0.50 0.20