HAICHUANG SEMI

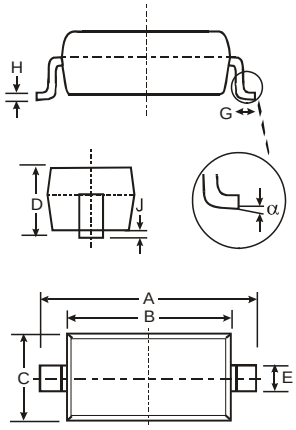
B0520LW/B0530W/B0540W

SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

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

DEVICE	MARKING
B0520LW	B2
B0530W	B3
B0540W	B4



SOD-123		
Dim	Min	Max
A	3.55	3.85
B	2.55	2.85
C	1.40	1.70
D	—	1.35
E	0.45	0.65
	0.55 Typical	
G	0.25	—
H	0.11 Typical	
J	—	0.10
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Parameter	Symbol	B0520LW	B0530W	B0540W	Unit
Peak Repetitive Peak Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	30	40	V
RMS Reverse Voltage Reverse Voltage (DC)	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current	I_o	0.5			A
Non-repetitive Peak Forward Surge Current @t=8.3ms	I_{FSM}	5.5			A
Power Dissipation	P_D	500			mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	200			℃/W
Junction Temperature	T_j	125			℃
Storage Temperature	T_{STG}	-55~+150			℃
Voltage Rate of Change	dv/dt	1000			V/μs

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Parameter	Symbol	B0520LW	B0530W	B0540W	Unit	Test Conditions
Minimum reverse breakdown voltage	$V_{(BR)}$	20	--	--	V	I_R=250μA
		--	30	--		I_R=200μA
		--	--	40		I_R=20μA
Forward voltage	V_{F1}	0.32	0.375	--	V	I_F=0.1A
	V_{F2}	0.385	0.430	0.510		I_F=0.5A
	V_{F3}	--	--	0.62		I_F=1A
Reverse current	I_{R1}	75	--	--	μA	V_R=10V
	I_{R2}	--	20	--		V_R=15V
Reverse current	I_{R3}	250	--	10	μA	V_R=20V
	I_{R4}	--	130	--		V_R=30V
	I_{R5}	--	--	20		V_R=40V
Capacitance between terminals	C_T	--	--	170	pF	V_R=0,f=1MHz

TYPICAL TRANSIENT CHARACTERISTICS B0520LW

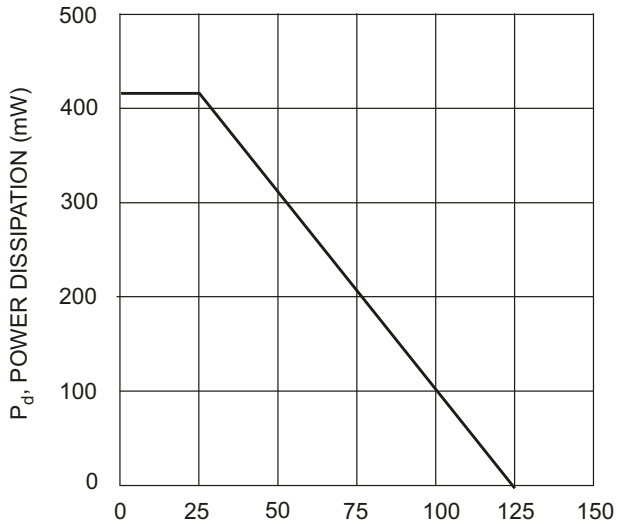


Fig. 1 Power Derating Curve

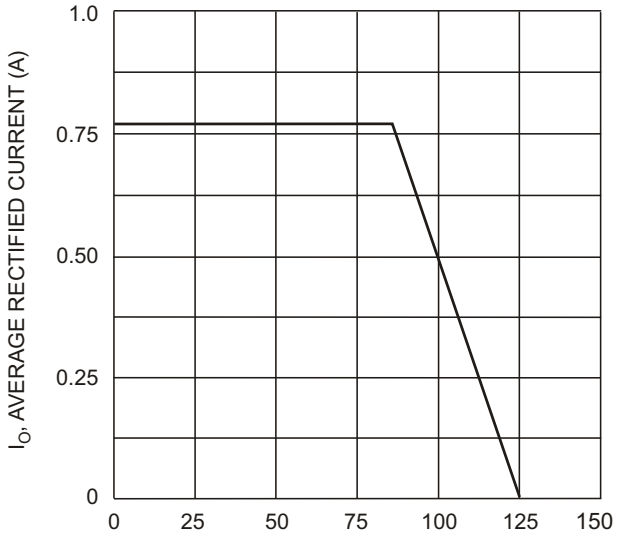


Fig. 2 Forward Current Derating Curve

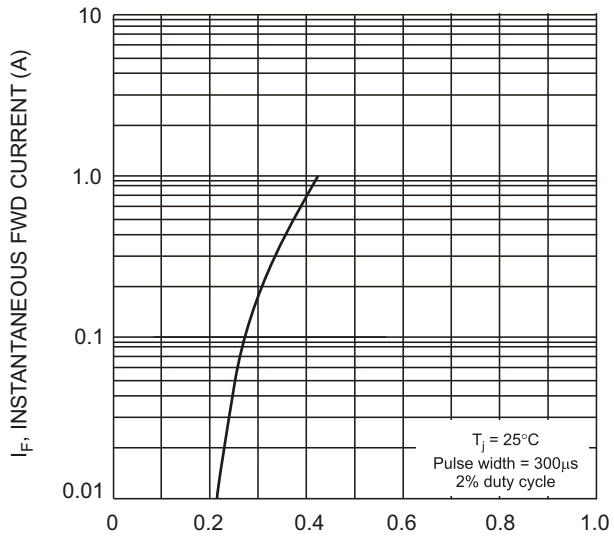


Fig. 3 Typical Forward Characteristics

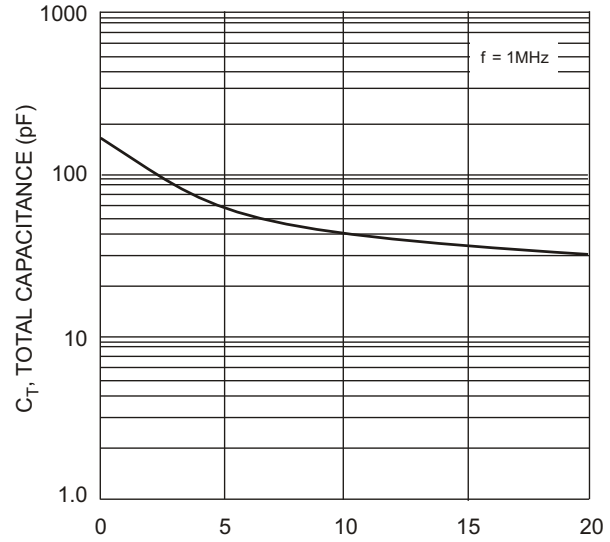


Fig. 4 Typ. Total Capacitance vs Reverse Voltage

TYPICAL TRANSIENT CHARACTERISTICS B0530W

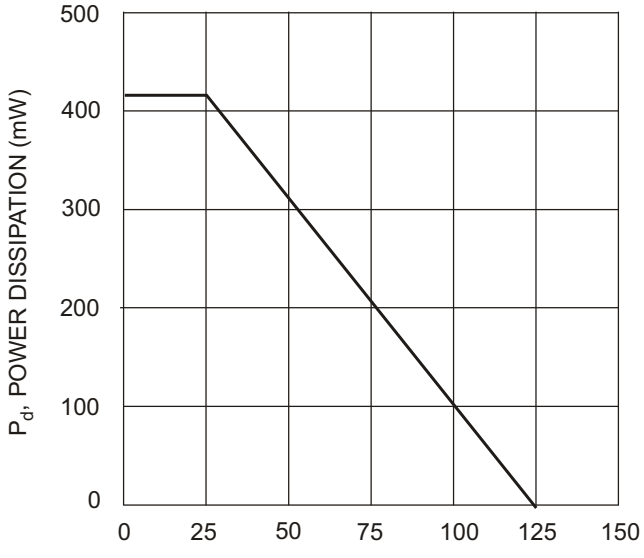


Fig. 1 Power Derating Curve

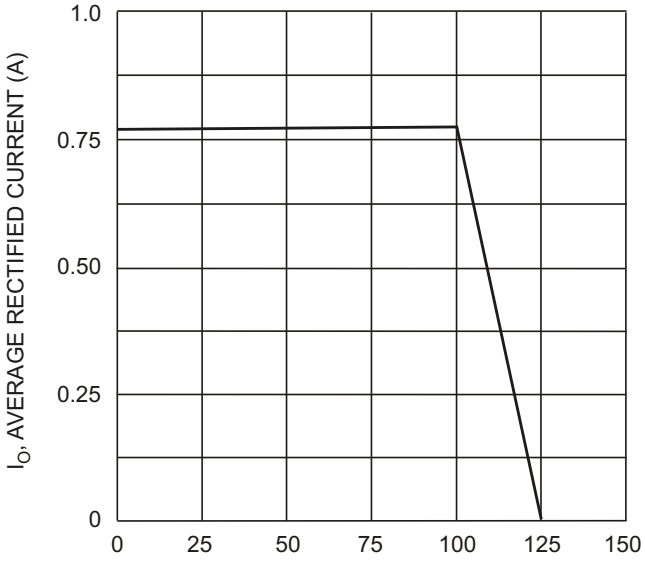
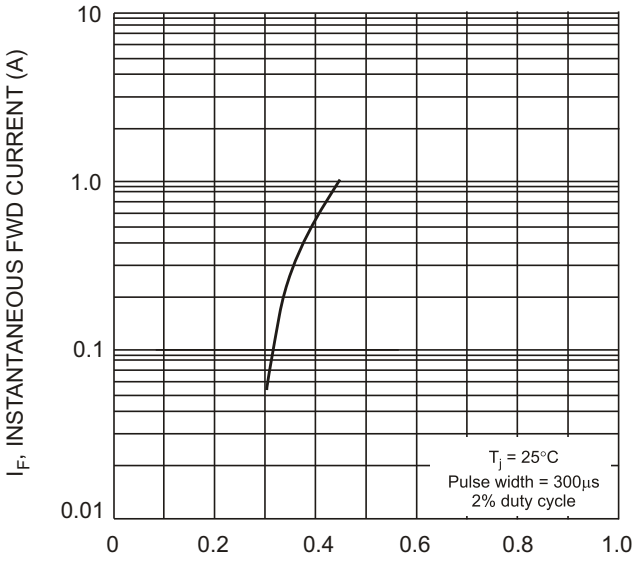


Fig. 2 Forward Current Derating Curve



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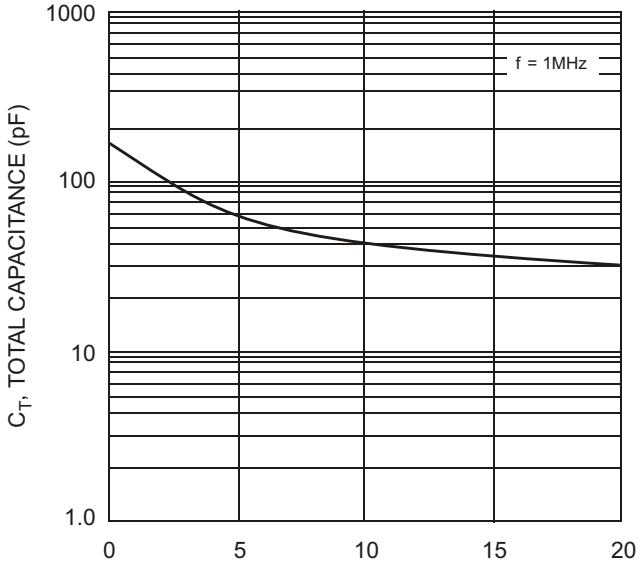
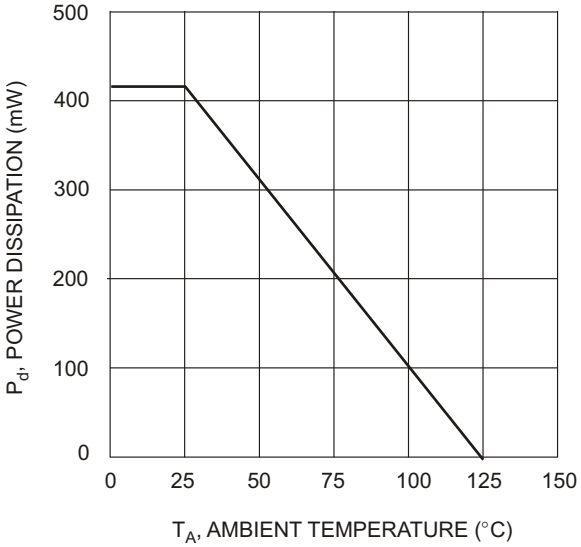


Fig. 4 Typ. Total Capacitance vs Reverse Voltage

TYPICAL TRANSIENT CHARACTERISTICS B0540W



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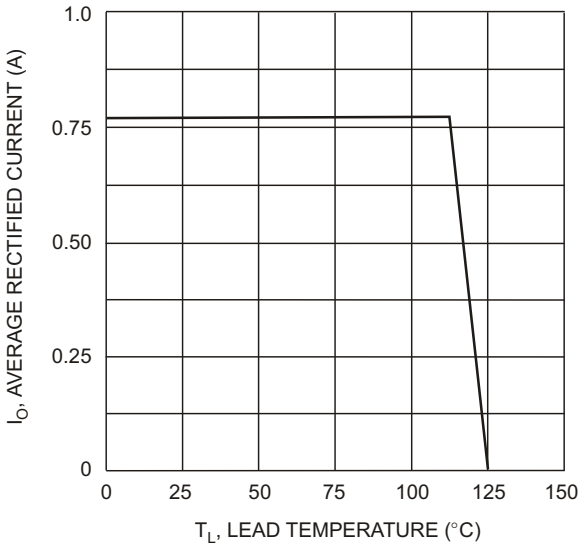

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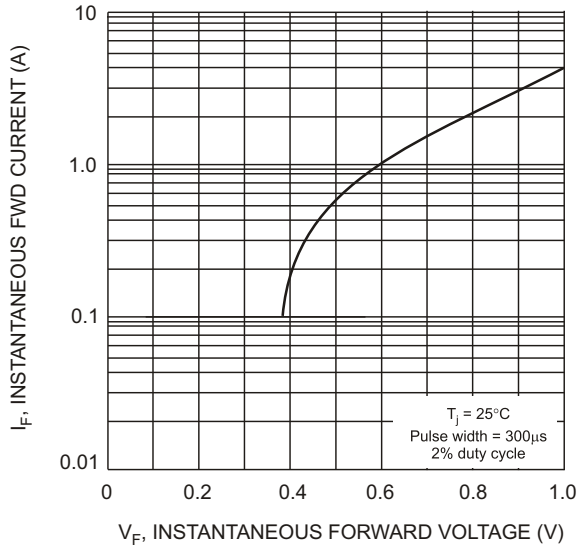

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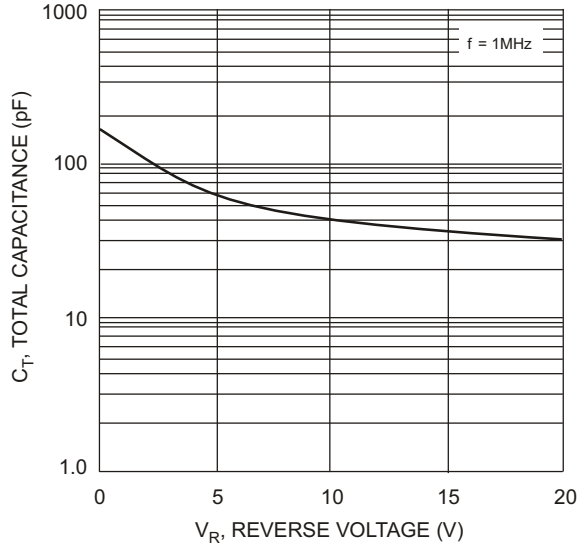

Fig. 4 Typ. Total Capacitance vs Reverse Voltage

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