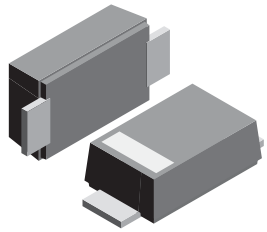
RB551V-20 - RB551V-40

SURFACE MOUNT SCHOTTKY BARRIER DIODES



VOLTAGE RANGE: 20 - 40V
CURRENT: 500mA

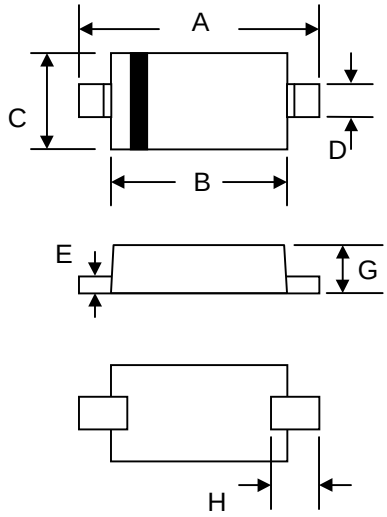
Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance

Mechanical Data

- Case: SOD-323, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.004 grams (approx.)

RoHS COMPLIANT



SOD-323		
Dim	**Min**	**Max**
A	2.30	2.70
B	1.75	1.95
C	1.15	1.35
D	0.25	0.35
E	0.05	0.15
G	0.70	0.95
H	0.30	—
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics 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	RB551V-20	RB551V-30	RB551V-40	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current	I_O	500			mA
Peak Forward Surge Current	I_{FSM}	5.5			A
Power Dissipation	P_d	410			mW
Thermal Resistance junction to Ambient	$R_{\theta JA}$	244			°C/W
Operating Temperature Range	T_J	+125			°C
Storage Temperature Range	T_{STG}	-65 to +125			°C
Voltage Rate of Change	dv/dt	1000			V/μs

Electrical Characteristics (T_A =25˚C Unless otherwise noted)

Characteristic	Symbol	RB551V-20	RB551V-30	RB551V-40	Unit
Reverse Breakdown Voltage I_R=250μA I_R=130μA I_R=20μA	$V_{(BR)R}$	20 - -	- 30 -	- - 40	V
Forward Voltage I_F=0.1A I_F=0.5A I_F=1.0A	V_F	0.3 0.385 -	0.375 0.430 -	- 0.510 0.62	V
Reverse Current V_R=10V V_R=15V V_R=20V V_R=30V V_R=40V	IR	75 - 250 - -	- 20 - 130 -	- - 10 - 20	μA
Capacitance between terminals V_R=1.0V, f=1.0MHz	C_T		170		pF
Reverse Recovery Time I_F=I_R=10mA I_{rr}=0.1×I_R , R_L =100W	t_{rr}		4.0		ns

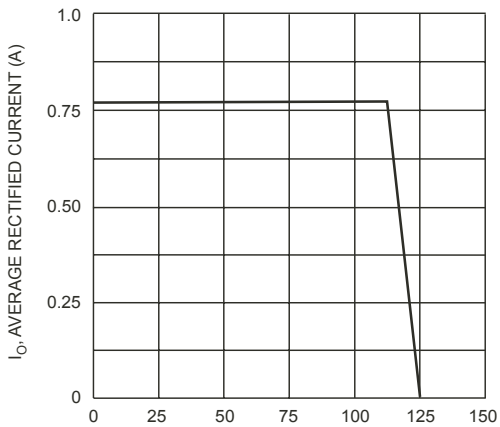


Fig. 1 Forward Current Derating Curve

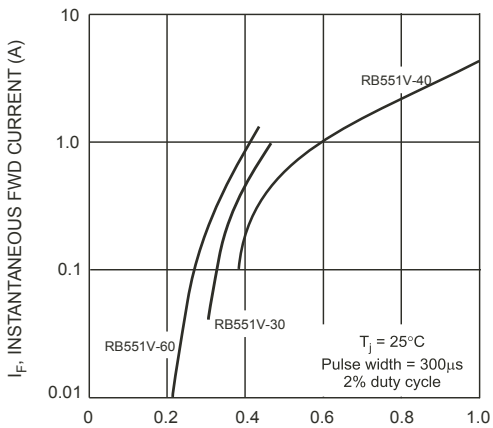


Fig. 2 Typical Forward Characteristics

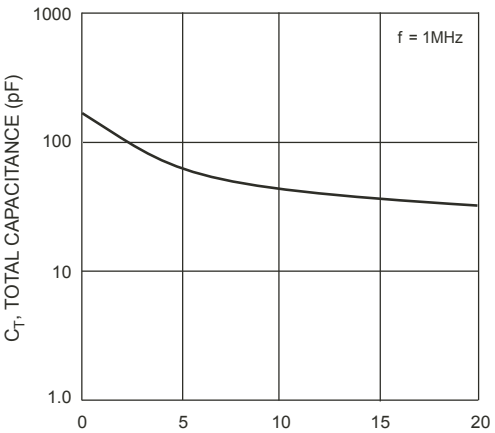


Fig. 3 Typ. Total Capacitance vs Reverse Voltage