

## II. Schottky Rectifier

### 0.5A Surface Mount Schottky Rectifier B0520W~B0540W

(Package: SOD-123)

<p><b>FEATURES</b></p> <ul style="list-style-type: none"> <li>• Low forward voltage drop</li> <li>• Guard ring construction for transient protection</li> <li>• High conductance</li> </ul> <p><b>MECHANICAL DATA</b></p> <ul style="list-style-type: none"> <li>• Case : Molded plastic body</li> <li>• Terminals : Plated leads solderable per MIL-STD-750, Method 2026</li> <li>• Polarity : Polarity symbols marked on case</li> <li>• Marking : B0520W : SD B0530W : SE B0540W : SF</li> </ul>	<p>Case: SOD-123 Dimensions in millimetres (inches)</p>
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### Ratings & Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

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

Characteristic		Symbol	B0520W	B0530W	B0540W	Unit	
Peak repetitive peak reverse voltage		$V_{RRM}$				Volts	
Working peak reverse voltage		$V_{RWM}$	20	30	40		
DC blocking voltage		$V_R$					
RMS reverse voltage		$V_{R(RMS)}$	14	21	28	Volts	
Voltage rate of change		dv/dt	1000			V/ $\mu$ s	
Minimum reverse breakdown voltage		$V_{BR}$	20 - -	- 30 -	- - 40	Volts	
Forward voltage	Ta=25	$I_R=250\mu A$ $I_F=0.1A$	$V_{F1}$	0.300	0.375	-	Volts
		$I_R=130\mu A$ $I_F=0.5A$	$V_{F2}$	0.385	0.430	0.510	
		$I_R=20\mu A$ $I_F=1.0A$	$V_{F3}$	-	-	0.620	
Reverse current	Ta=25	$V_R=10V$	$I_{R1}$	75	-	-	$\mu A$
		$V_R=15V$	$I_{R2}$	-	20	-	
		$V_R=20V$	$I_{R3}$	250	-	10	
		$V_R=30V$	$I_{R4}$	-	130	-	
		$V_R=40V$	$I_{R5}$	-	-	20	
Average rectified output current		$I_O$	500			mA	
Peak forward surge current		$I_{FSM}$	5.5			Amps	
Power dissipation		PD	410			mW	
Thermal resistance junction to ambient		Rth-JA	244			/W	
Storage temperature		Tstg	-65 to +150				
Capacitance between terminals	$V_R=1V, f=1.0MHz$	$C_T$	170	170	170	PF	

Note:

Maximum ratings and electrical characteristics, single diode @ Ta = 25

## Ratings and Characteristic Curves of B0520W~B0540W

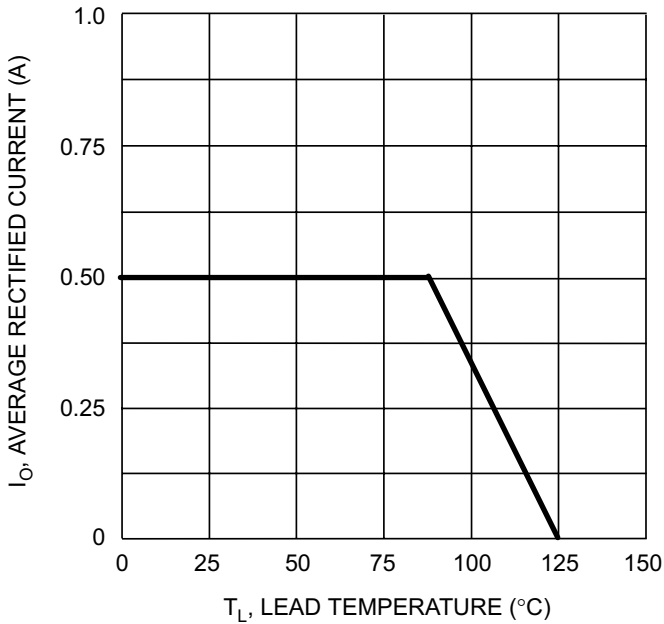


Fig. 1 Forward Current Derating Curve

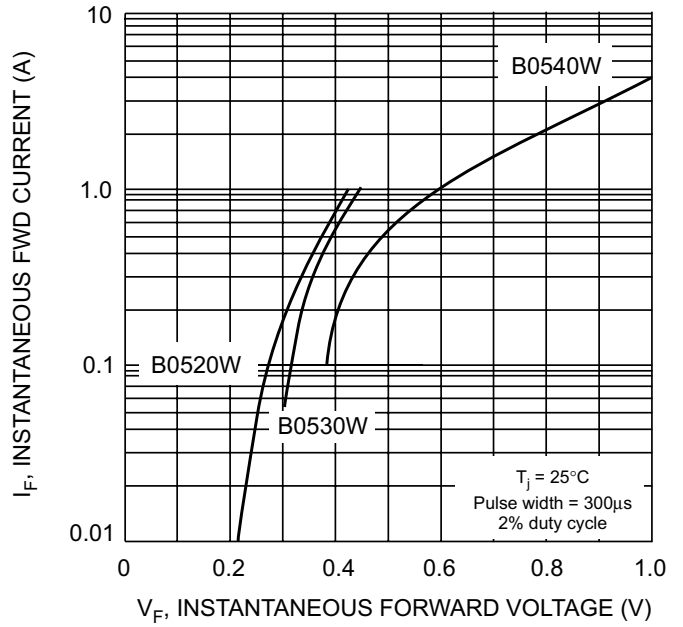


Fig. 2 Typical Forward Characteristics

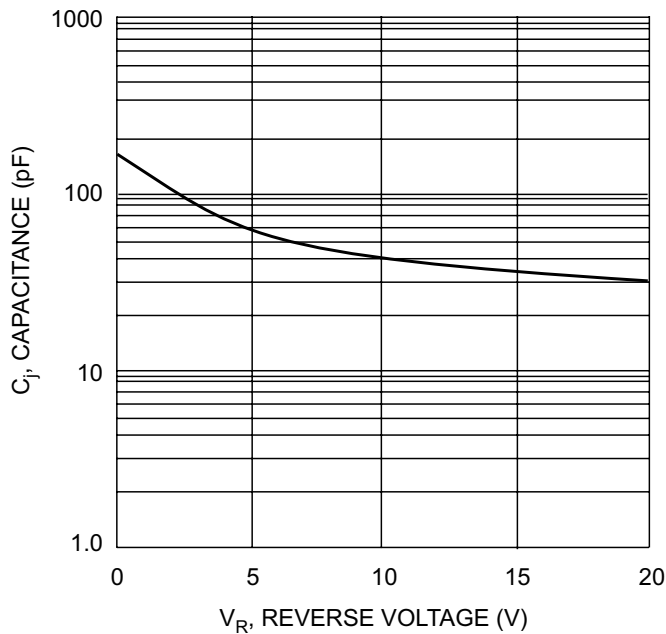


Fig. 3 Typ. Junction Capacitance vs Reverse Voltage