



MM3S0520 thru MM3S05100

0.5 Amp Schottky Rectifier 20 –100 Volts

PRODUCT PREVIEW

DESCRIPTION

These Schottky rectifiers are for general-purpose high speed switching applications particularly where a small package is required. This thermally efficient design permits an average forward current rating of 0.5 amps in a small SOD-323 package when adequate PC board mounting is provided.

KEY FEATURES

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- Reverse Energy Tested
- High Current Capability
- Extremely Low Thermal Resistance

IMPORTANT: For the most current data, consult MICROSEMI's website: <http://www.microsemi.com>

MAXIMUM RATINGS

- Operating Temperature: -65°C to +125°C
- Storage Temperature: -65°C to +150°C
- Maximum Thermal Resistance: 60°C/W Junction To Lead
- Forward Surge Current (I_{FSM}): 20 Amps at 8.3 ms, half-sine wave
- Average Forward Current (I_O): 0.5 Amps at 30°C

APPLICATIONS

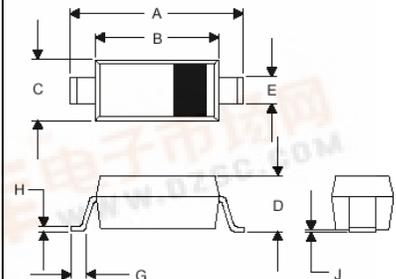
- High-Speed Switching
- Surface Mount

ELECTRICAL CHARACTERISTICS @ 25°C Unless otherwise specified

Part Number	Repetitive Peak Recovery Voltage V_{RWM} Volts	Leakage Current @ V_{RWM} I_R mA	Forward Voltage * @ 0.5A V_F Volts	Leakage Current @ V_{RWM} 100°C I_R mA	Capacitance @ $V_R = 4 V$, 1 MHz C_J pF
	MAX	MAX	MAX	MAX	TYP
MM3S0520	20	0.5	0.45	20	30
MM3S0530	30	0.5	0.55	20	30
MM3S0540	40	0.5	0.55	20	30
MM3S0560	60	0.5	0.70	20	30
MM3S0580	80	0.5	0.85	20	30
MM3S05100	100	0.5	0.85	20	30

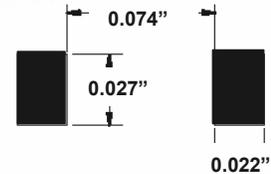
* Pulse test at 300 μ s

SOD-323



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.090	.107	2.30	2.70	
B	.063	.071	1.60	1.80	
C	.045	.053	1.15	1.35	
D	.031	.045	0.80	1.15	
E	.010	.016	0.25	0.40	
G	.004	.018	0.10	0.45	
H	.004	.010	0.10	0.25	
J	----	.006	----	0.15	

SUGGESTED SOLDER PAD LAYOUT



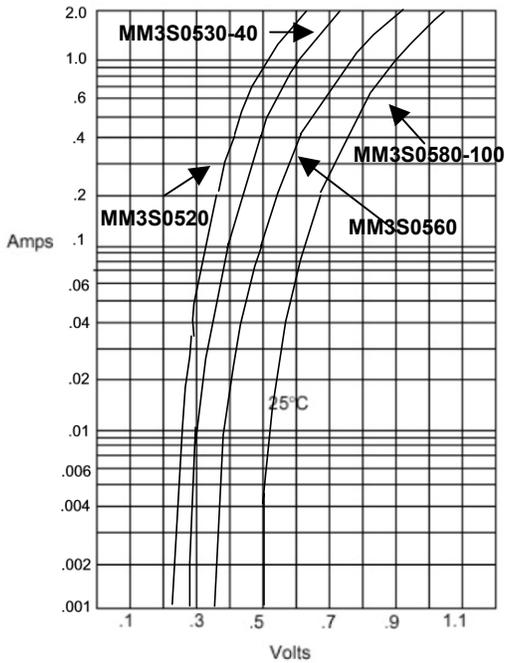


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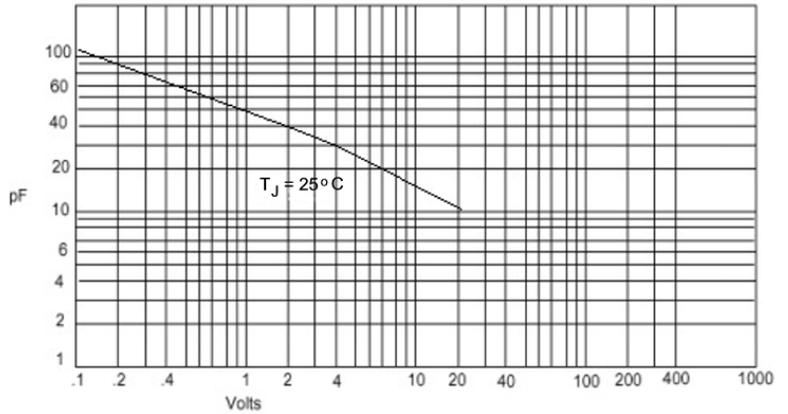
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Figure 1
Typical Forward Characteristics



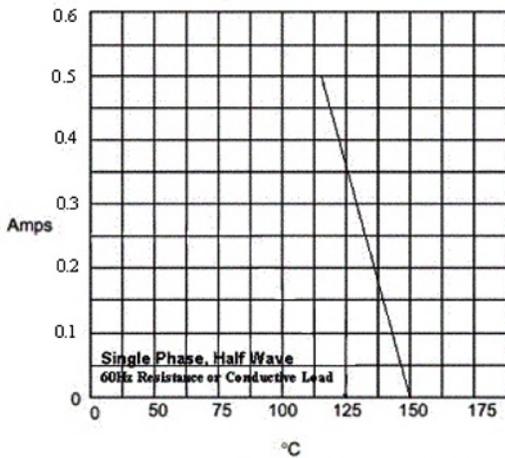
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Junction Capacitance



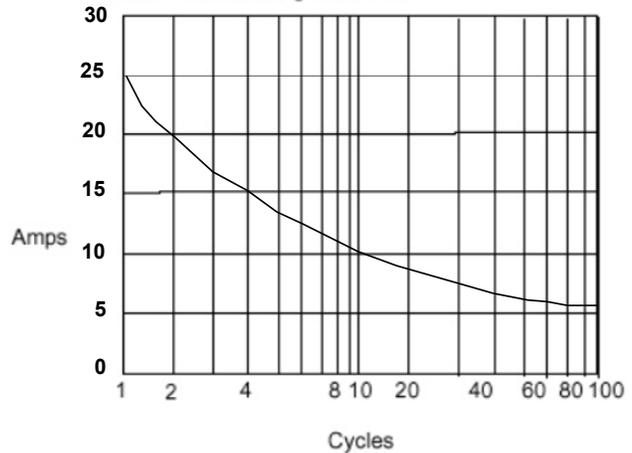
Junction Capacitance – pF *versus*
Reverse Voltage - Volts

Figure 3
Forward Derating Curve



Average Forward Rectified Current - Amperes *versus*
Lead Temperature - °C

Figure 4
Peak Forward Surge Current



Peak Forward Surge Current – Amperes *versus*
Number Of Cycles At 60 Hz – Cycles
Example shown is MM3S0520



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NOTES