

# Schottky Rectifiers







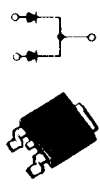
SWITCHMODE Schottky power rectifiers with the high speed and low forward voltage drop characteristic of Schottky's metal/silicon junctions are produced with ruggedness and temperature performance comparable to silicon-junction rectifiers. Ideal for use in low voltage, high frequency power supplies and as very fast clamping diodes, these devices feature switching times less than 10 ns, and are offered in current ranges from 0.5 to 300 amperes, and reverse voltages to 60 volts.

In some current ranges, devices are available with junction

temperature specifications of 125°C, 150°C, 175°C. Devices with higher  $T_J$  ratings can have significantly lower leakage currents, but higher forward-voltage specifications. These parameter tradeoffs should be considered when selecting devices for applications that can be satisfied by more than one device type number.

All devices are connected cathode to case or cathode to heatsink, where applicable. Reverse polarity may be available on some devices upon special request. Contact your Motorola representative for more information.

**Table 24. Schottky Rectifiers**

VRRM (Volts)	**I <sub>O</sub> , AVERAGE RECTIFIED FORWARD CURRENT (Amperes)							
	0.5	1		3		5	6	
	299-02 (DO-204AH) Glass 	59-04 Plastic 	362B-01 MLL41 Glass Leadless 	267-03 Plastic 	369A-04 Plastic 	60-01 Metal 	369A-04 Plastic 	
15		MBR115P						
20		1N5817	MBRL120	1N5820	MBR320	MBRD320	1N5823	MBRD620CT
25								
30	MBR030	1N5818	MBRL130	1N5821	MBR330	MBRD330	1N5824	MBRD630CT
35								
40	MBR040	1N5819	MBRL140	1N5822	MBR340	MBRD340	1N5825	MBRD640CT
45								
50		MBR150††			MBR350	MBRD350		MBRD650CT
60		MBR160††			MBR360	MBRD360		MBRD660CT
70		MBR170††			MBR370			
80		MBR180††			MBR380			
90		MBR190††			MBR390			
100		MBR1100††			MBR3100			
I <sub>FSM</sub> (Amps)	5	25	20	80	80	75	500	75
†T <sub>C</sub> @ Rated I <sub>O</sub> (°C)						125		130
†T <sub>L</sub> @ Rated I <sub>O</sub> (°C)	75	90	75	95			80	
T <sub>J</sub> (Max) (°C)	150	125	150	125	150	150	125	150
Max V <sub>F</sub> @ I <sub>FM</sub> = I <sub>O</sub>	0.65 T <sub>L</sub> = 25°C	*0.6 T <sub>L</sub> = 25°C	*0.69 T <sub>L</sub> = 25°C	*0.525 T <sub>L</sub> = 25°C	***0.74 T <sub>L</sub> = 25°C	0.45 T <sub>C</sub> = 125°C	*0.38 T <sub>C</sub> = 25°C	0.65 T <sub>C</sub> = 125°C

□ TX versions available.

\* Values are for the 40 volt units. The lower voltage parts provide lower limits and higher voltage units provide slightly higher limits.

\*\*  $I_O$  is total device output.

\*\*\* Values are for 60 volt units. The lower voltages parts  $\leq 40$  volts provide lower limits.

† Must be derated for reverse power dissipation. See data sheet.

††  $T_J$  (max) = 150°C