

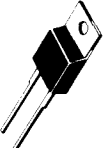
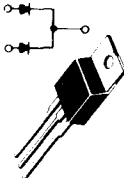
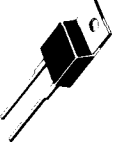
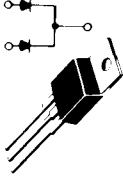
There are many other standard features in Motorola Schottky rectifiers that give added performance and reliability.

1. GUARDRINGS are included in all Schottky die for reverse voltage stress protection from high rates of dv/dt to virtually eliminate the need for snubber networks. The guarding also operates like a zener and avalanches when subjected to voltage transients.

2. MOLYBDENUM DISCS on both sides of the die minimize fatigue from power cycling in all metal products. The plastic TO-220 devices have a special solder formulation for the same purpose.

3. QUALITY CONTROL monitors all critical fabrication operations and performs selected stress tests to assure constant processes.

Table 24. Schottky Rectifiers (continued)

	**I_O, AVERAGE RECTIFIED FORWARD CURRENT (Amperes)						
	8	7.5	10	15	16	20	
V_{RRM} (Volts)	60-01 Metal 	221B-01 (TO-220AC) Plastic 	221A-04 (TO-220AB) Plastic 	56-03 (DO-203AA) (DO-4) Metal 	221B-01 (TO-220AC) Plastic 	221A-04 (TO-220AB) Plastic 	
15							
20	BYS08-20††				1N5826		
25							
30	BYS08-30††				1N5827		
35		MBR735	MBR1035	MBR1535CT		MBR1635	MBR2035CT
40					1N5828		
45	BYS08-45††	MBR745	MBR1045	MBR1545CT		MBR1645	MBR2045CT
50	BYS08-50††						
60			MBR1060				MBR2060CT
70			MBR1070				MBR2070CT
80			MBR1080				MBR2080CT
90			MBR1090				MBR2090CT
100			MBR10100				MBR20100CT
I_{FSM} (Amps)	400	150	150	150	500	150	150
†T_C @ Rated I_O (°C)	100	105	135	105	85	125	135
†T_L @ Rated I_O (°C)							
T_J (Max) (°C)	150	150	150	150	125	150	150
Max V_F @ I_{FM} = I_O	0.47 T _C = 25°C	0.57 T _C = 125°C	0.57 T _C = 125°C	0.72 @ 15 A T _C = 125°C	*0.5 T _C = 25°C	0.57 T _C = 125°C	0.72 @ 20 A T _C = 125°C

* Values are for the 40 volt units. The lower voltage parts provide lower limits.

** I_O is total device output.

† Must be derated for reverse power dissipation. See Data Sheet.

†† No. CECC 86-819-029.

Table 27. Rectifier Applications (continued)

Output Rectifiers											
Schottky For 2 V and 5 V Outputs				Fast Recovery (200 ns) For ≥ 5 V Outputs				Ultrafast Recovery (35 ns) For ≥ 5 V Outputs			
Output Current	Suggested Devices*			Output Current	Suggested Devices*			Output Current	Suggested Devices*		
	Type	I _O	V _R *		Type	I _O	V _R *		Type	I _O	V _R *
1–2 A	1N5818 1N5821 MBR330P 1N5824 MBR735	1 A 3 A 5 A 7.5 A	30 V 30 V 30 V 30 V 35 V	<1/2 A	1N4934	1 A	100 V	<1/2 A	MUR110 MUR860	1 A 8 A	100 V 600 V
5–10 A	1N5827 MBR1530 1N5830 1N6095 MBR735 MBR1035 MBR1635	15 A 15 A 25 A 25 A 7.5 A 10 A 16 A	30 V 30 V 30 V 30 V 35 V 35 V 35 V	1/2– 1-1/2 A	1N4934 MR851 MR831 MR801	1 A 1 A 3 A 3 A	100 V 100 V 100 V 100 V	1/2–1-1/2 A	MUR110 MUR810 MUR860	1 A 2.5 A (at T _A) 8 A	100 V 100 V 600 V
10–15 A	1N5830 MBR2535 SD41 MBR3535 MBR1635 MBR1035	25 A 25 A 30 A 35 A 15 A 10 A	30 V 35 V 35 V 35 V 35 V 35 V	1-1/2– 2-1/2 A	MR851 MR821 MR831 MR801	3 A 5 A 3 A 3 A	100 V 100 V 100 V 100 V	1-1/2 A–2-1/2 A	MUR810, R MUR810, R MUR860	2.5 A (at T _A) 8 A (at T _C) 8 A	100 V 100 V 600 V
8–16 A	1N5827 MBR1530 1N5830 1N6095 MBR3035CT MBR1535CT MBR2035CT MBR2535CT	15 A 15 A 25 A 25 A 30 A 15 A 20 A 30 A	30 V 30 V 30 V 30 V 35 V 35 V 35 V 35 V	2–2-1/2 A	MR851 MR801	3 A 3 A	100 V 100 V	2–2-1/2 A	MUR810, R MUR1610CT, R	8 A (at T _C) (at T _C)	100 V 100 V
10–20 A	1N5827 MBR1530 1N5830 1N6095 MBR3035CT MBR1535CT MBR2535CT	15 A 15 A 25 A 25 A 30 A 15 A 30 A	30 V 30 V 30 V 30 V 35 V 35 V 35 V	2–2-1/2 A	MR851 MR801	3 A 3 A	100 V 100 V	2–2-1/2 A	MUR810, R MUR1610CT, R	8 A (at T _C) 16 A (at T _C)	100 V 100 V
30–50 A	1N5830 SD41 1N6095 MBR3535 MBR3035CT MBR6035CT MBR12035CT	25 A 30 A 25 A 35 A 30 A 60 A 100 A	30 V 35 V 30 V 35 V 35 V 35 V 35 V	2–8 A	MR851 MR821 1N3880, A	3 A 5 A 6 A	100 V 100 V 100 V	2–8 A	MUR810, R MUR1610CT, R MUR1510, R	8 A 16 A 15 A	100 V 100 V 100 V
200 A	SD51 MBR6035 MBR7535 1N6097 (In Parallel) MBR20035CT MBR30035CT	60 A 60 A 75 A 50 A 200 A 300 A	35 V 35 V 35 V 30 V 35 V 35 V	40 A	1N3900 1N3910	20 A 30 A	100 V 100 V	40 A	MUR10010CT	100 A	100 V
550 A	SD51 MBR6035 MBR7535 1N6097 (In Parallel) MBR20035CT MBR30035CT	60 A 60 A 75 A 50 A 200 A 300 A	35 V 35 V 35 V 30 V 35 V 35 V	100 A	MR871	50 A	100 V	100 A	MUR20010CT	200 A	100 V

*These suggested devices are the most common used; see the full Selector Guide for other voltages.