

FEATURES:

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number
- Available Non-RoHS (standard) or RoHS compliant (add PBF suffix)

MAXIMUM RATINGS

Rating		Symbol	Value	Unit
Peak Repetitive Forward and Reverse Blocking Voltage ⁽¹⁾ (T _J = 25 to 125°C, Gate Open)	MCR264-4	V _{DRM} V _{RRM}	200	Volts
	MCR264-6		400	
	MCR264-8		600	
	MCR264-10		800	
	MCR264-12		1000	
Forward Current (T _C = 80°C) (All Conduction Angles)		I _{T(RMS)}	40	Amps
		I _{T(AV)}	25	
Peak Non-Repetitive Surge Current – 8.3ms (1/2 Cycle, Sine Wave)		I _{TSM}	400	Amps
	1.5ms		450	
Forward Peak Gate Power		P _{GM}	20	Watts
Forward Average Gate Power		P _{G(AV)}	0.5	Watt
Forward Peak Gate Current (300μs, 120PPS)		I _{GM}	2	Amps
Operating Junction Temperature Range		T _J	-40 to +125	°C
Storage Temperature Range		T _{stg}	-40 to +150	°C
Thermal Resistance, Junction to Case		R _{θJC}	1	°C/W
Thermal Resistance, Junction to Ambient		R _{θJA}	60	°C/W

Note 1: V_{DRM} and V_{RRM} for all types can be applied on a continuous basis. Ratings apply for zero or negative gate voltage; however, positive gate voltage shall not be applied concurrent with negative potential on the anode. Blocking voltages shall not be tested with a constant current source such that the voltage ratings of the devices are exceeded.
These devices are rated for use in applications subject to high surge conditions. Care must be taken to ensure proper heat sinking when the device is to be used at high sustained currents.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Characteristics		Symbol	Min	Typ	Max	Unit
Peak Forward or Reverse Blocking Current (V _{AK} = Rated V _{DRM} or V _{RRM} , Gate Open)	T _J = 25°C	I _{DRM} , I _{RRM}	-	-	10	μA
	T _J = 125°C		-	-	2	mA
Forward "On" Voltage ⁽²⁾ (I _{TM} = 80A)		V _{TM}	-	1.4	2	Volts
Gate Trigger Current (Continuous dc) (Anode Voltage = 12 Vdc, R _L = 100 Ohms, T _C = -40°C)		I _{GT}	-	15	50	mA
			-	30	90	
Gate Trigger Voltage (Continuous dc) (Anode Voltage = 12 Vdc, R _L = 100 Ohms)		V _{GT}	-	1	1.5	Volts
Gate Non-Trigger Voltage (Anode Voltage = Rated V _{DRM} , R _L = 100 Ohms, T _J = 125°C)		V _{GD}	0.2	-	-	Volts
Holding Current (Anode Voltage = 12 Vdc)		I _H	-	30	60	mA
Turn-On Time (I _{TM} = 40 A, I _{GT} = 60 mAdc)		t _{gt}	-	1.5	-	μs
Critical Rate-of-Rise of Off-State Voltage (Gate Open, V ₀ = Rated V _{DRM} , Exponential Waveform)		dv/dt	-	50	-	V/μs

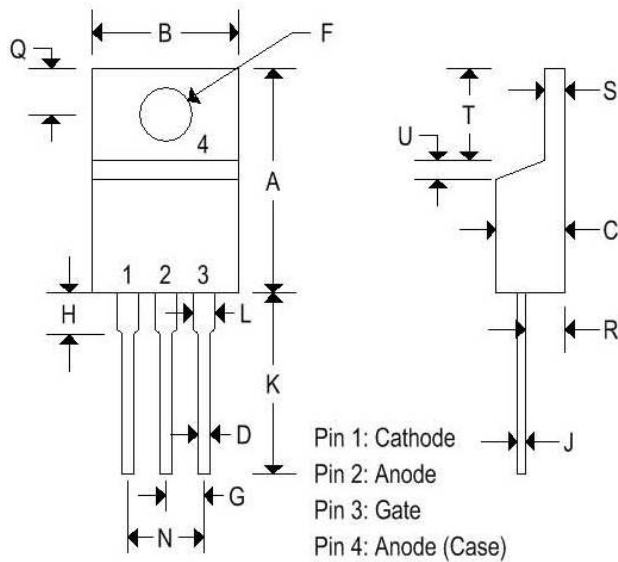
Note 2: Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.

MC264-4-MC264-12

SILICON CONTROLLED RECTIFIERS

MECHANICAL CHARACTERISTICS

Case	TO-220AB
Marking	Body painted, alpha-numeric
Polarity	Cathode band



	TO-220AB			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.575	0.620	14.600	15.750
B	0.380	0.405	9.650	10.290
C	0.160	0.190	4.060	4.820
D	0.025	0.035	0.640	0.890
F	0.142	0.147	3.610	3.730
G	0.095	0.105	2.410	2.670
H	0.110	0.155	2.790	3.930
J	0.014	0.022	0.360	0.560
K	0.500	0.562	12.700	14.270
L	0.045	0.055	1.140	1.390
N	0.190	0.210	4.830	5.330
Q	0.100	0.120	2.540	3.040
R	0.080	0.110	2.040	2.790
S	0.045	0.055	1.140	1.390
T	0.235	0.255	5.970	6.480
U	-	0.050	-	1.270
V	0.045	-	1.140	-
Z	-	0.080	-	2.030

FIGURE 3 — GATE TRIGGER CURRENT

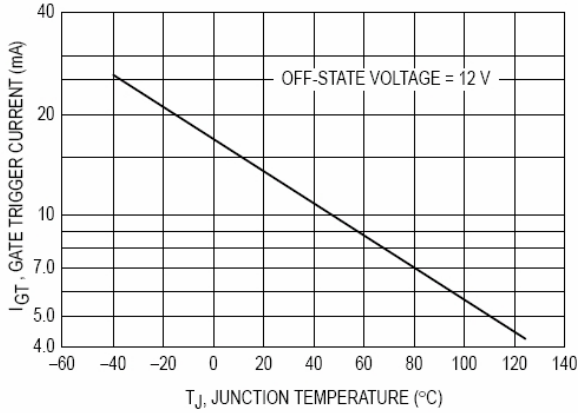


FIGURE 4 — NEW GATE TRIGGER VOLTAGE

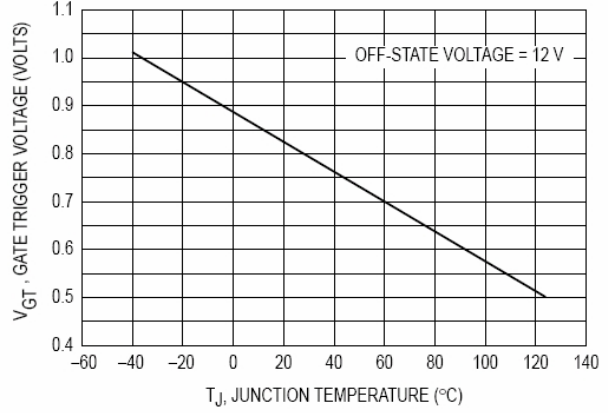


FIGURE 5 — HOLDING CURRENT

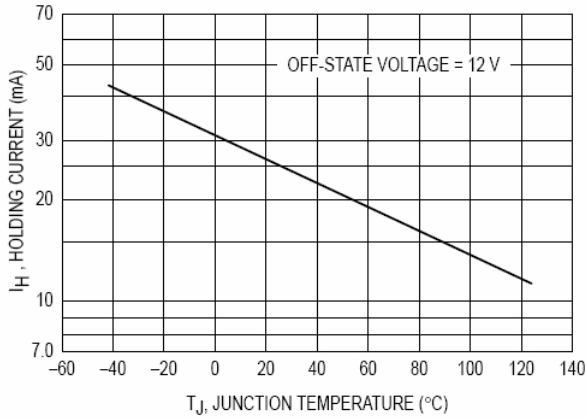


FIGURE 6 — TYPICAL FORWARD VOLTAGE

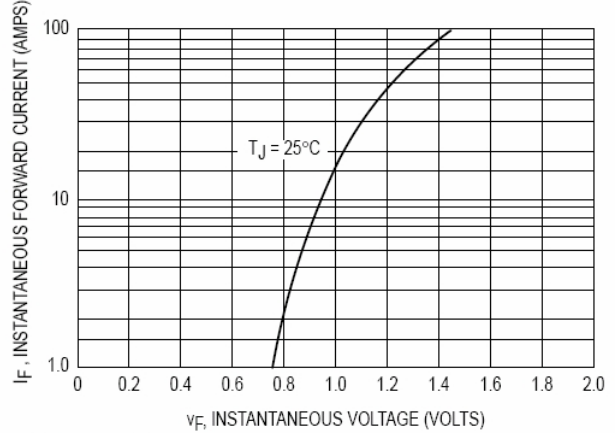


FIGURE 7 — THERMAL RESPONSE

