DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

MUR1605CTR-MUR1620CTR

16 AMP ULTRA FAST RECTIFIER

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	MUR				Unit
		1605CTR	1610CTR	1615CTR	1620CTR	
Peak repetitive reverse voltage **Working peak reverse voltage** **DC blocking voltage**	V_{RRM} V_{RWM} V_R	50	100	150	200	V
Average rectified forward current (Rated V_R)	$I_{F(AV)}$	16.0 @ T_C = 160°C				A
Peak repetitive surge current (Rated V_R) square wave, 20kHz	I_{FM}	16 @ T_C = 140°C				A
Non-repetitive peak surge current (surge applied at rated load conditions, halfwave, single phase, 60Hz)	I_{FSM}	100				A
Operating and storage junction temperature range	T_J, T_{stg}	-65 to +175				°C
Thermal resistance Junction to case	$R_{\Theta JC}$	2.0				°C/W

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

Parameter	Symbol	MUR				Unit
		1605CTR	1610CTR	1615CTR	1620CTR	
Maximum instantaneous forward voltage[1] (I_F = 8.0A, T_C = 25°C) (I_F = 8.0A, T_C = 150°C)	V_F	1.2 1.1				V
Maximum instantaneous reverse current [1] (Rated dc voltage, T_C = 25°C) (Rated dc voltage, T_C = 150°C)	I_R	5.0 500				µA
Maximum reverse recovery time (I_F = 1.0A, di/dt = 50A/µs) (I_F = 0.5A, di/dt = 100A/µs)	t_{rr}	85 35				ns

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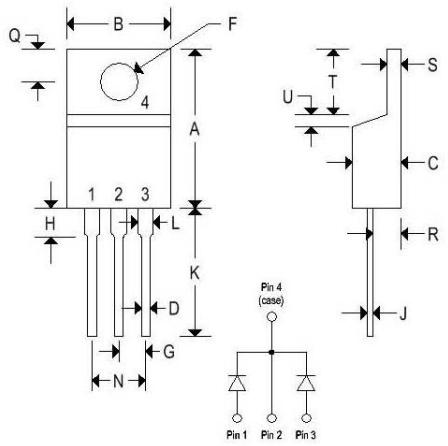
MECHANICAL CHARACTERISTICS

Case	TO-220AB
Marking	Alpha-numeric
Pin out	See below



	TO-220AB			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.570	0.620	14.480	15.750
B	0.380	0.405	9.660	10.280
C	0.160	0.190	4.070	4.820
D	0.025	0.035	0.640	0.880
F	0.142	0.147	3.610	3.730
G	0.095	0.105	2.420	2.660
H	0.110	0.155	2.800	3.930
J	0.018	0.025	0.460	0.640
K	0.500	0.562	12.700	14.270
L	0.045	0.060	1.150	1.520
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	1.150	1.390
T	0.235	0.255	5.970	6.470
U	-	0.050	-	1.270

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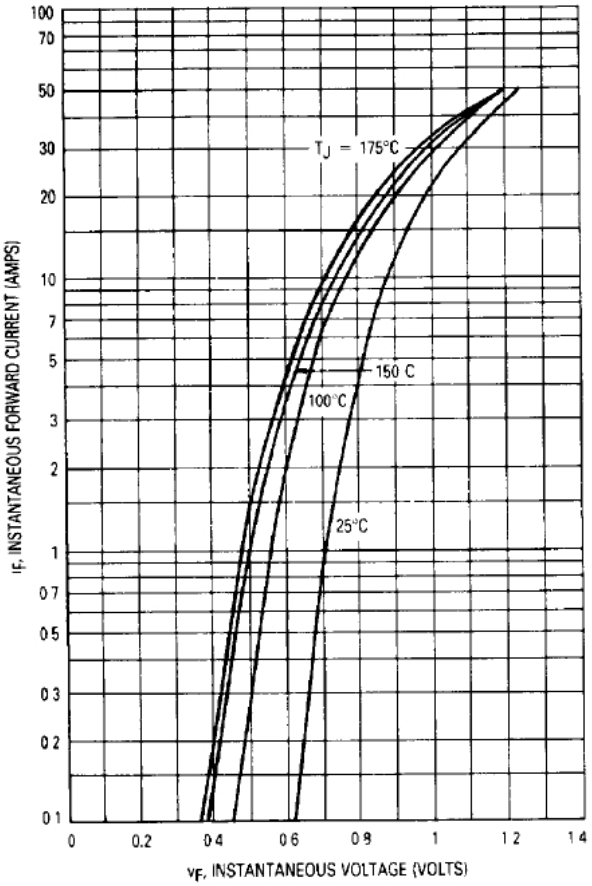

Figure 1. Typical Forward Voltage (Per Leg)

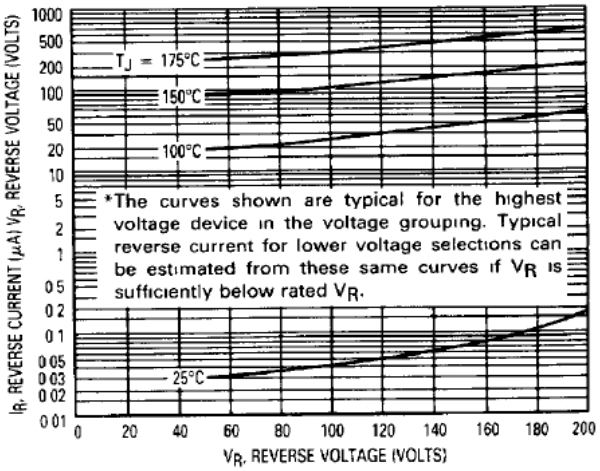

Figure 2. Typical Reverse Current* (Per Leg)

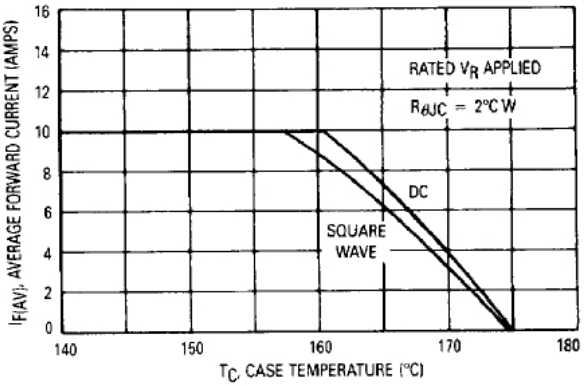

Figure 3. Current Derating, Case (Per Leg)

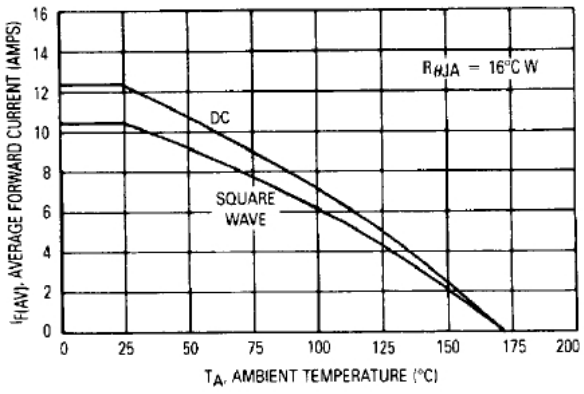

Figure 4. Current Derating, Ambient (Per Leg)

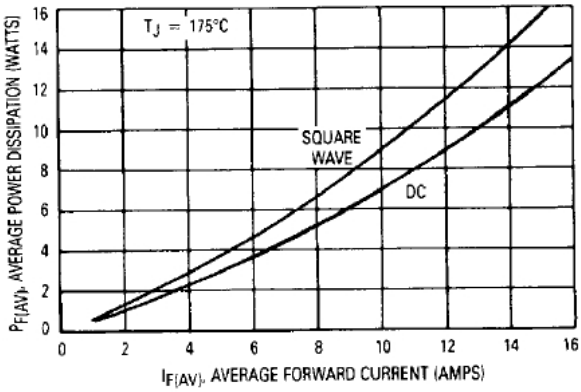

Figure 5. Power Dissipation (Per Leg)

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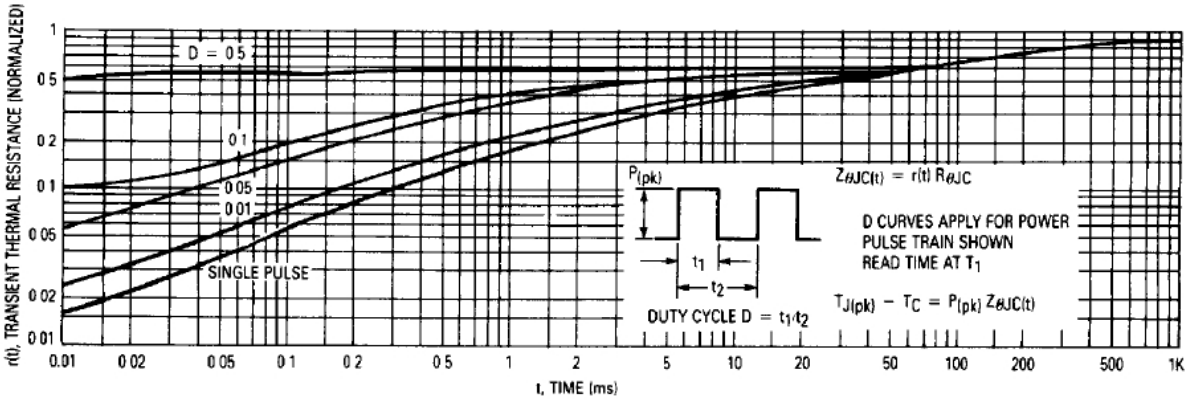

Figure 6. Thermal Response

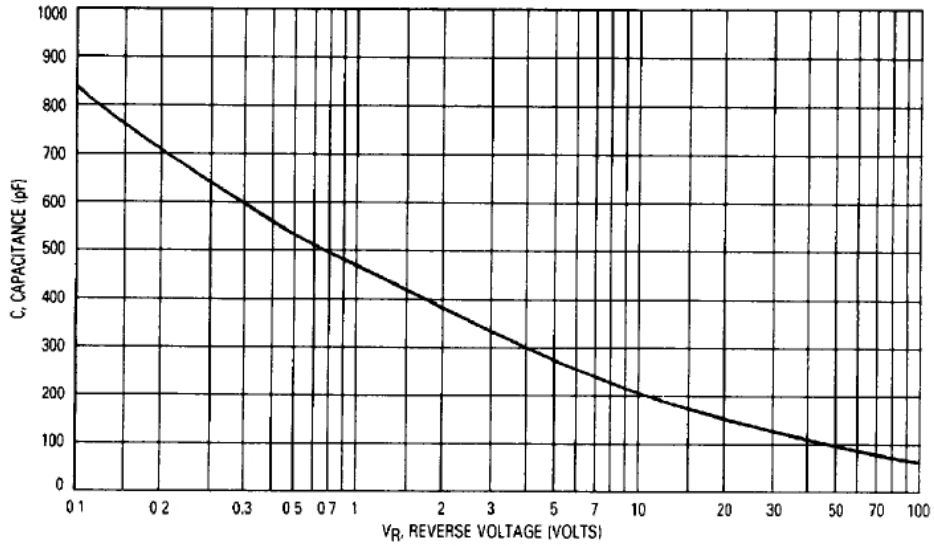

Figure 7. Typical Capacitance (Per Leg)