

MUR1505-MUR1560

15 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	MUR1505	MUR1510	MUR1515	MUR1520	MUR1530	MUR1540	MUR1550	MUR1560	Unit
Peak repetitive reverse voltage	V_{RRM}									
Working peak reverse voltage	V_{RWM}	50	100	150	200	300	400	500	600	V
DC blocking voltage	V_R									
Average rectified forward current (Rated V_R)	$I_{F(AV)}$	15 @ $T_C = 150^\circ\text{C}$						15 @ $T_C = 145^\circ\text{C}$		A
Peak repetitive forward current (Rated V_R , square wave, 20 kHz)	I_{FRM}	30 @ $T_C = 150^\circ\text{C}$						30 @ $T_C = 145^\circ\text{C}$		A
Non repetitive peak surge current (Surge applied at rated load conditions, halfwave, single phase, 60Hz)	I_{FSM}	200				150				A
Operating and storage junction temperature range	T_J, T_{stg}	-65 to +175								$^\circ\text{C}$
Maximum thermal resistance Junction to case	$R_{\theta JC}$	1.5								$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

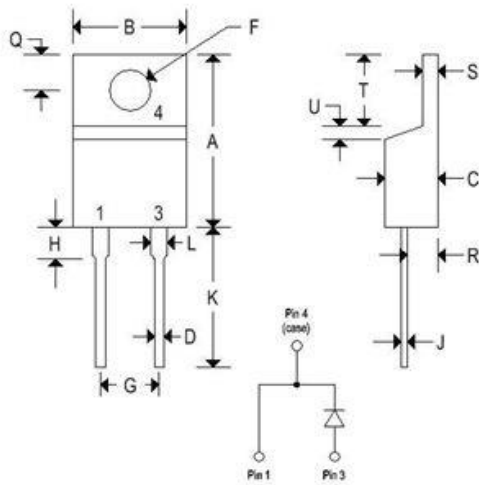
Parameter	Symbol	MUR1505	MUR1510	MUR1515	MUR1520	MUR1530	MUR1540	MUR1550	MUR1560	Unit
Maximum forward voltage drop ⁽¹⁾ ($I_F = 15\text{A}$, $T_C = 150^\circ\text{C}$) ($I_F = 15\text{A}$, $T_C = 25^\circ\text{C}$)	V_F	0.85			1.12		1.20			V
		1.05			1.25		1.50			
Maximum DC reverse current ⁽¹⁾ (Rated dc voltage, $T_C = 150^\circ\text{C}$) (Rated dc voltage, $T_C = 25^\circ\text{C}$)	I_R	500						1000		μA
		10						10		
Maximum reverse recovery time ($I_F = 1.0\text{A}$, $di/dt = 50\text{A}/\mu\text{s}$)	t_{rr}	35				60				ns

MUR1505-MUR1560

15 AMP ULTRA FAST RECTIFIER

MECHANICAL CHARACTERISTICS

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



	TO-220AC			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.595	0.620	15.110	15.750
B	0.380	0.405	9.650	10.290
C	0.160	0.190	4.060	4.820
D	0.142	0.147	3.610	3.730
F	0.142	0.147	3.610	3.730
G	0.190	0.210	4.830	5.330
H	0.110	0.130	2.790	3.300
J	0.018	0.025	0.460	0.640
K	0.500	0.562	12.700	14.270
L	0.045	0.050	1.140	1.270
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	0.030	0.050	0.760	1.270

MUR1505-MUR1560

15 AMP ULTRA FAST RECTIFIER

FIGURE 1 — TYPICAL FORWARD VOLTAGE

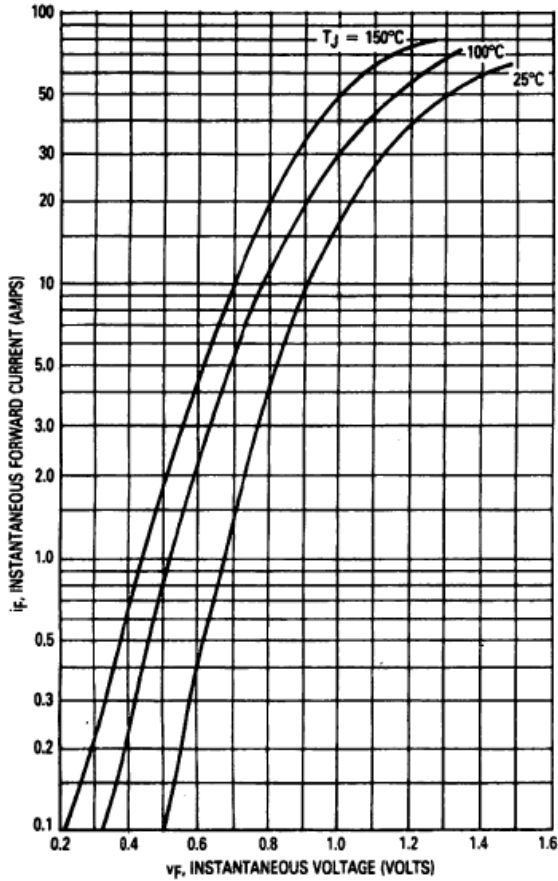
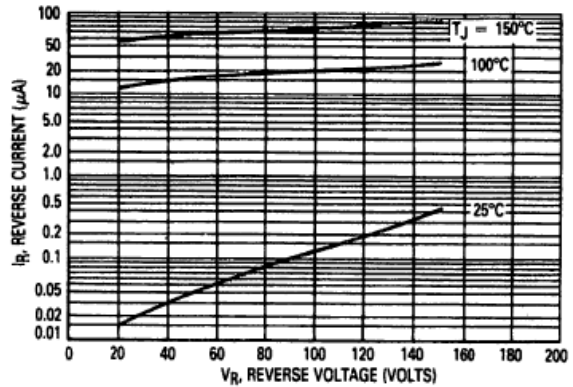


FIGURE 2 — TYPICAL REVERSE CURRENT*



*The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if V_R is sufficiently below rated V_R .

FIGURE 3 — CURRENT DERATING, CASE

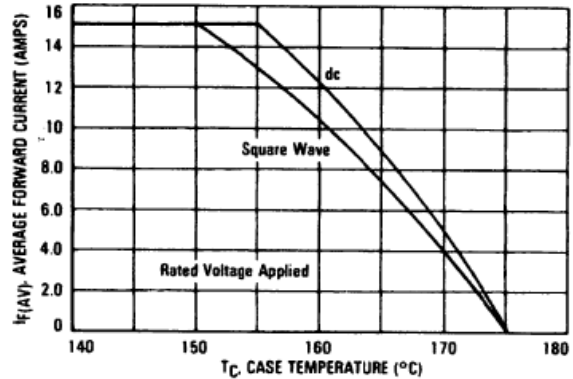


FIGURE 4 — CURRENT DERATING, AMBIENT

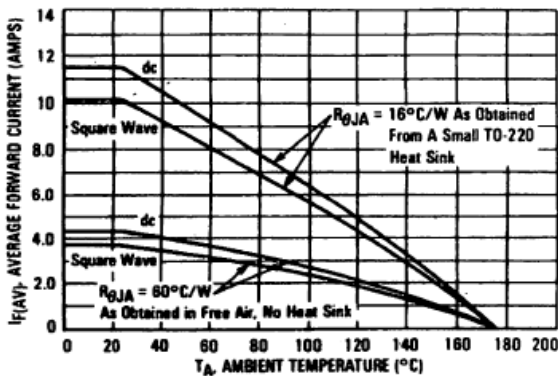
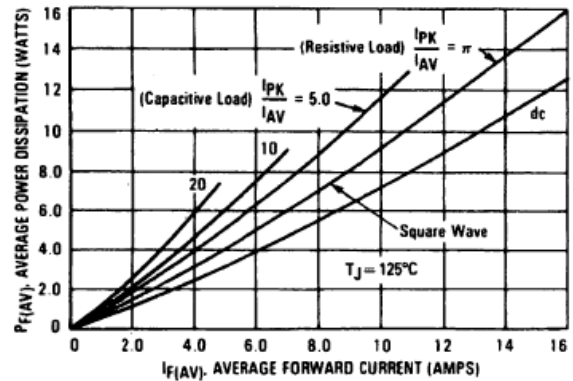


FIGURE 5 — POWER DISSIPATION



MUR1505-MUR1560

15 AMP ULTRA FAST RECTIFIER

FIGURE 6 — TYPICAL FORWARD VOLTAGE

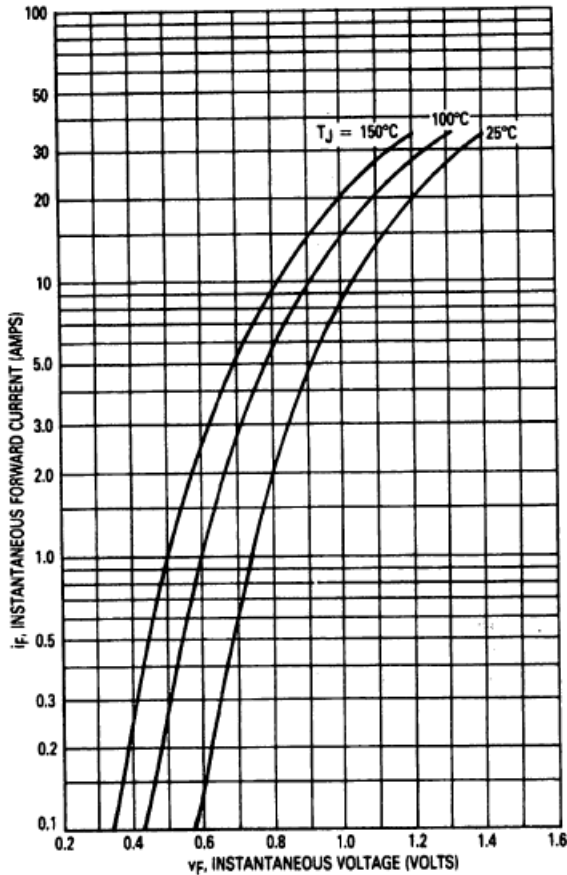
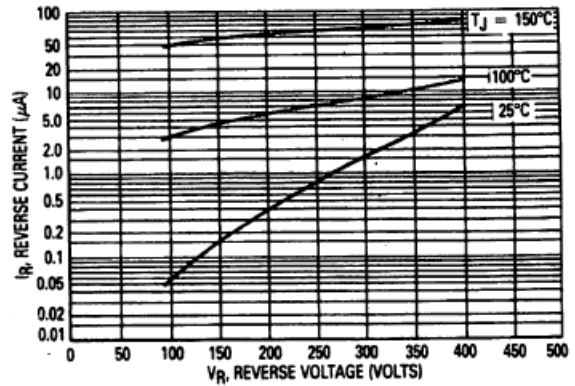


FIGURE 7 — TYPICAL REVERSE CURRENT*



*The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if V_R is sufficiently below rated V_R .

FIGURE 8 — CURRENT DERATING, CASE

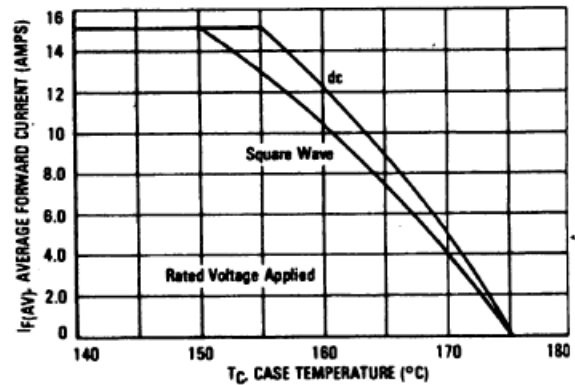


FIGURE 9 — CURRENT DERATING, AMBIENT

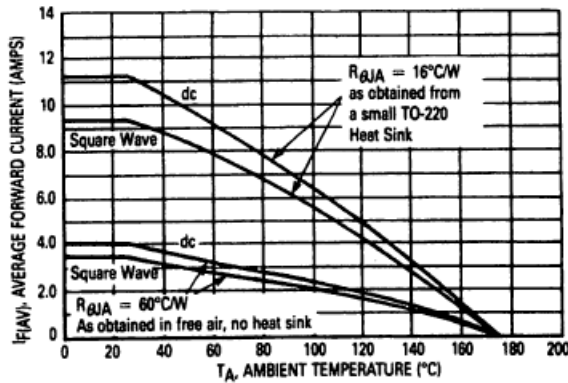
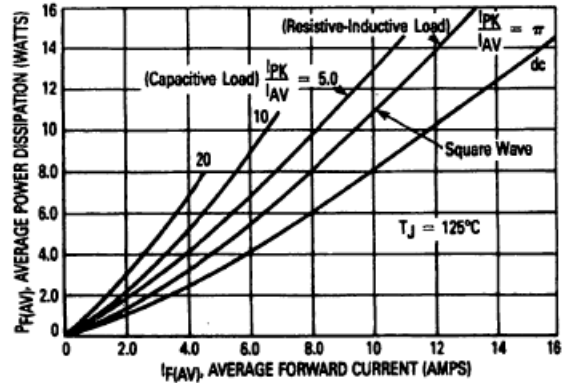


FIGURE 10 — POWER DISSIPATION



MUR1505-MUR1560

15 AMP ULTRA FAST RECTIFIER

FIGURE 11 — TYPICAL FORWARD VOLTAGE

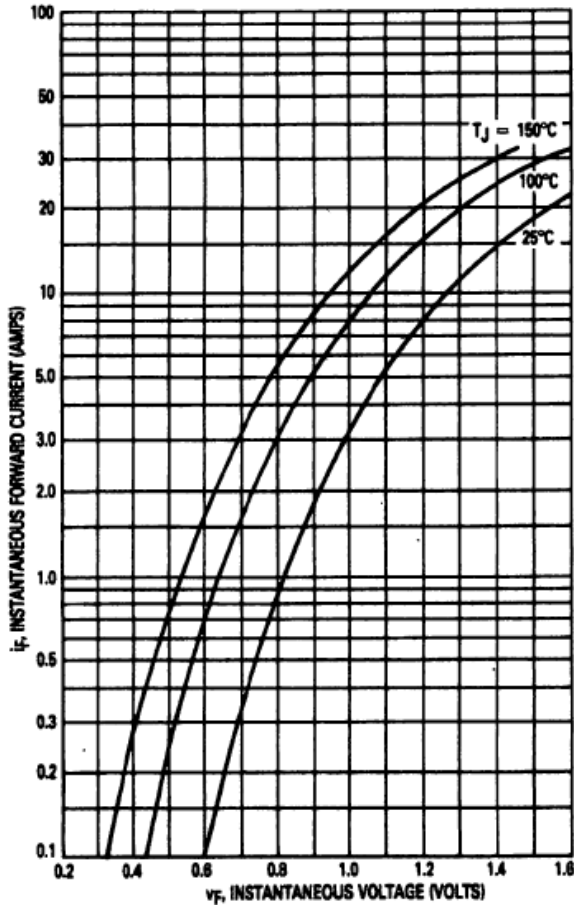
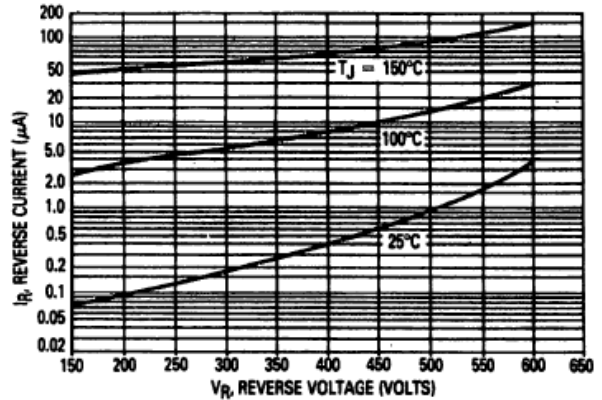


FIGURE 12 — TYPICAL REVERSE CURRENT*



*The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if V_R is sufficiently below rated V_R .

FIGURE 13 — CURRENT DERATING, CASE

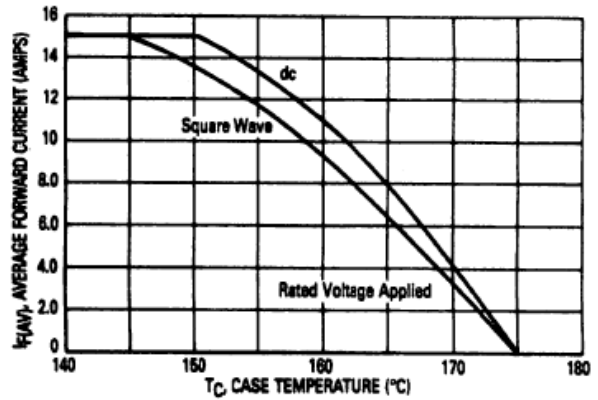


FIGURE 14 — CURRENT DERATING, AMBIENT

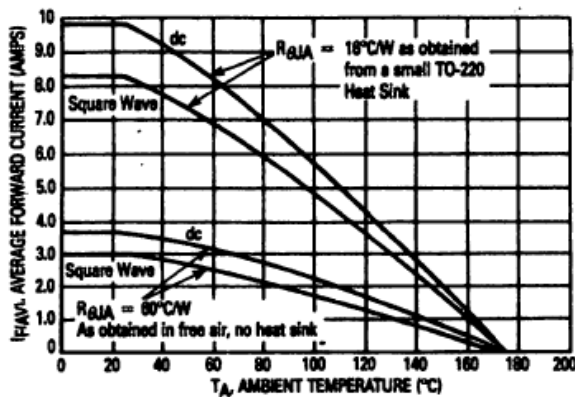
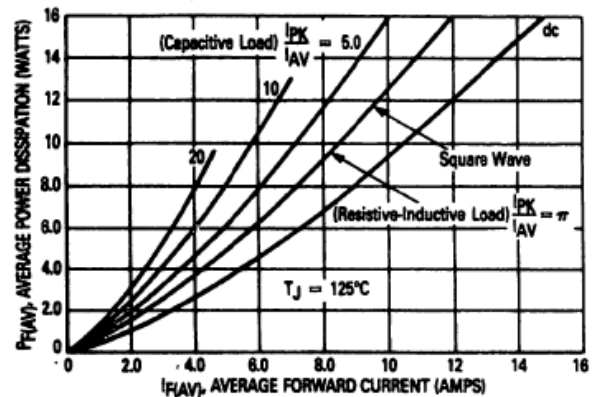


FIGURE 15 — POWER DISSIPATION



MUR1505-MUR1560

15 AMP ULTRA FAST RECTIFIER

FIGURE 16 — THERMAL RESPONSE

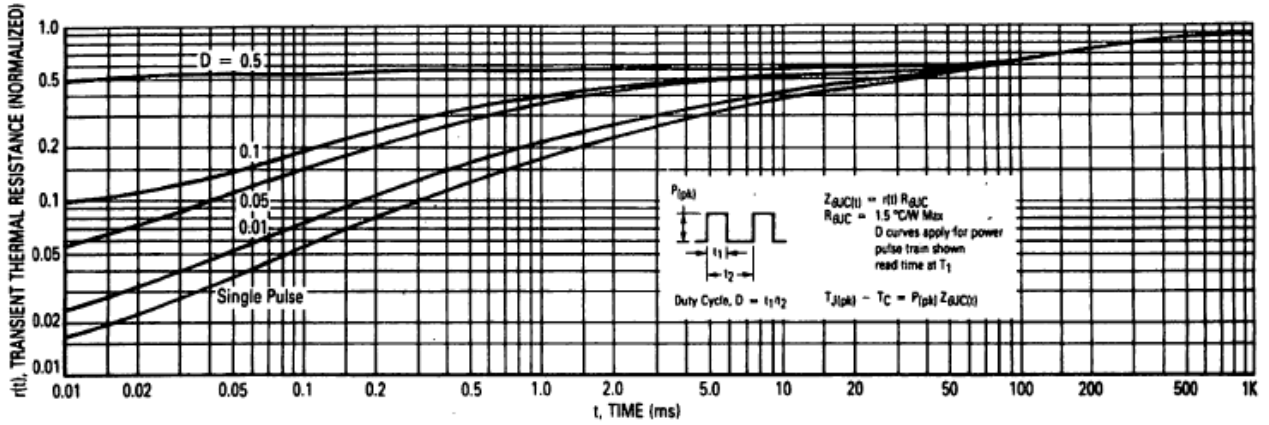


FIGURE 17 — TYPICAL CAPACITANCE

