

# MUR7005-MUR7060

## 70A ULTRA FAST RECOVERY RECTIFIERS

### 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

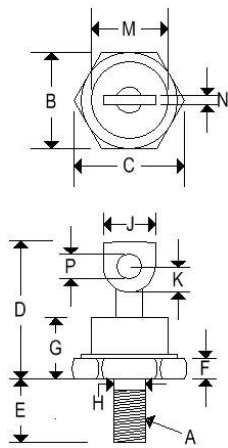
Rating	Symbol	MUR7005	MUR7010	MUR7020	MUR7040	MUR7060	Unit
Peak repetitive reverse voltage	$V_{RRM}$	50	100	200	400	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	
DC blocking voltage	$V_R$	50	100	200	400	600	
Average rectified forward current (Rated $V_R$ )	$I_{F(AV)}$	70 @ $T_c = 135^\circ\text{C}$					A
Peak forward surge current (8.3ms, half sine)	$I_{FSM}$	1000					A
Operating and storage junction temperature range	$T_J, T_{stg}$	-55 to +175					$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS

Parameter	Symbol	MUR7005	MUR7010	MUR7020	MUR7040	MUR7060	Unit
Maximum instantaneous forward voltage <sup>(1)</sup> ( $I_F = 70\text{A}, T_J = 25^\circ\text{C}$ )	$V_F$	0.975			1.25	1.35	V
Maximum DC reverse current <sup>(2)</sup> (Rated dc voltage, $T_J = 25^\circ\text{C}$ ) (Rated dc voltage, $T_J = 125^\circ\text{C}$ )	$I_R$	50 6					$\mu\text{A}$ mA
Maximum reverse recovery time ( $I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{RR} = 0.25\text{A}$ )	$t_{rr}$	60			75	90	ns
Typical junction capacitance @ 1.0MHz, $V_R = 10\text{V}$	$C_J$	575			300	275	pF

### MECHANICAL CHARACTERISTICS

Case	DO-5(R)
Marking	Alpha-numeric
Normal polarity	Cathode is stud
Reverse polarity	Anode is stud (add "R" suffix)

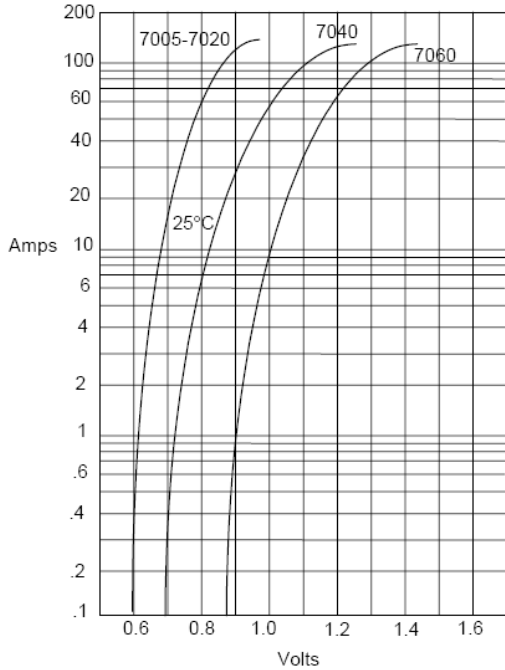


	DO-5(R)			
	Inches		Millimeters	
	Min	Max	Min	Max
A	¼-28 UNF2A threads			
B	0.669	0.688	16.990	17.480
C	-	0.794	-	20.160
D	-	1.000	-	25.400
E	0.422	0.453	10.720	11.510
F	0.115	0.200	2.920	5.080
G	-	0.450	-	11.430
H	0.220	0.249	5.580	6.320
J	0.250	0.375	6.350	9.530
K	0.156	-	3.960	-
M	-	0.667	-	16.940
N	0.030	0.080	0.760	2.030
P	0.140	0.175	3.560	4.450

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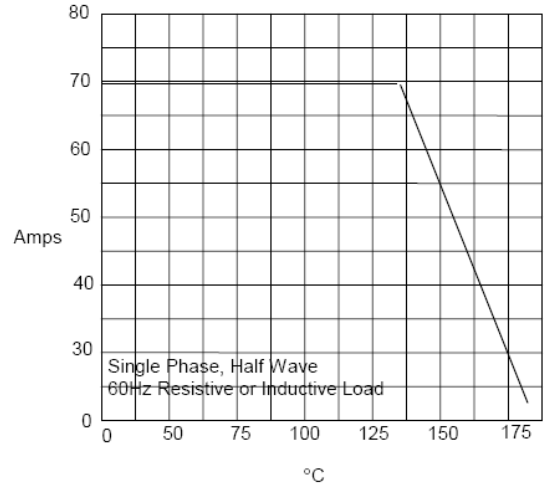
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Figure 1  
Typical Forward Characteristics



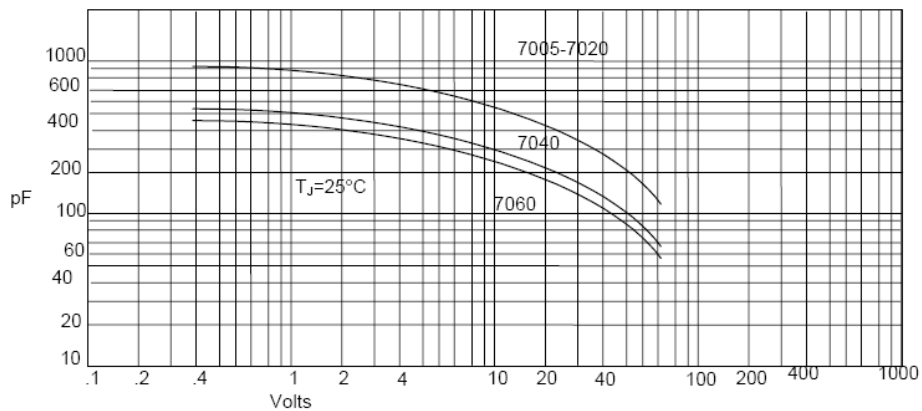
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



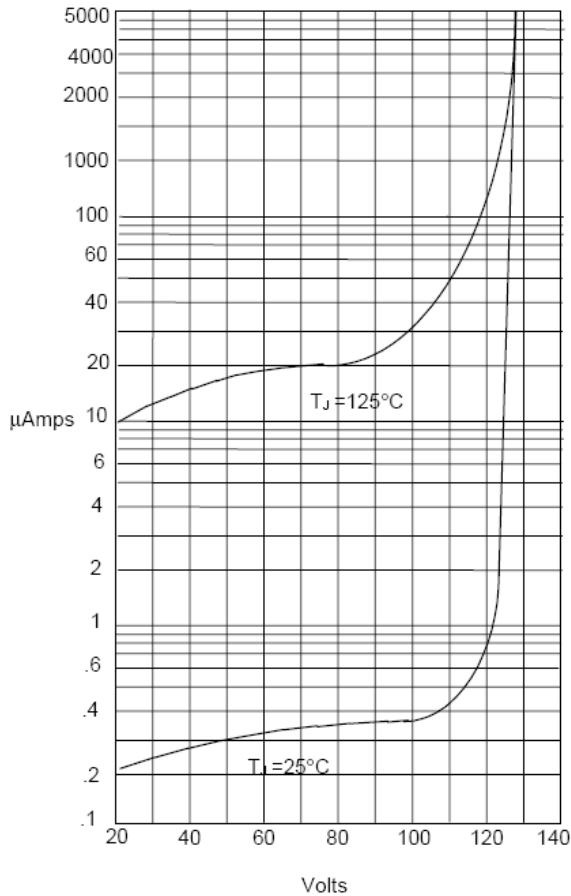
Average Forward Rectified Current - Amperes versus  
Case Temperature - °C

Figure 3  
Junction Capacitance



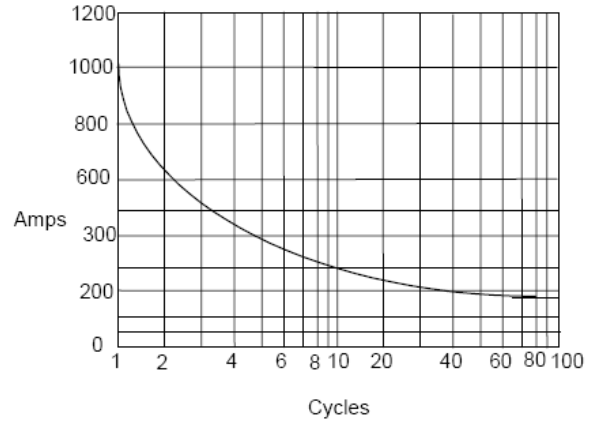
Junction Capacitance - pF versus  
Reverse Voltage - Volts

Figure 4  
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - MicroAmperes *versus*  
Percent Of Rated Peak Reverse Voltage - Volts

Figure 5  
Peak Forward Surge Current



Peak Forward Surge Current - Amperes *versus*  
Number Of Cycles At 60Hz - Cycles