

# MUR5005-MUR5060

## 50 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
		5005	5010	5020	5040	5060	
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 forward current (Rated $V_R$ ) <sup>(1)</sup>	$I_{F(AV)}$	50 @ $T_C = 135^\circ\text{C}$					A
Peak forward surge current (8.3ms, halfsine)	$I_{FSM}$	600					A
Operating and storage junction temperature range	$T_J, T_{stg}$	-55 to +175					$^\circ\text{C}$

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

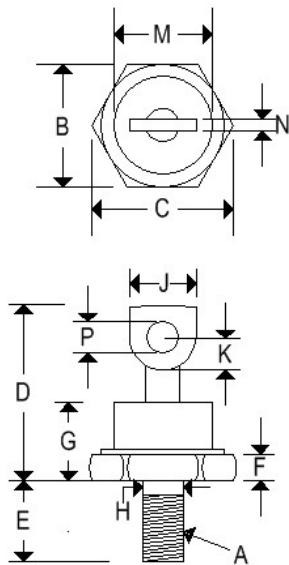
Parameter	Symbol	MUR					Unit
		5005	5010	5020	5040	5060	
Maximum instantaneous forward voltage <sup>(1)</sup> ( $I_F = 50\text{A}$ , $T_C = 25^\circ\text{C}$ )	$V_F$	1.15			1.35	1.70	V
Maximum DC reverse current <sup>(1)</sup> (Rated dc voltage, $T_C = 25^\circ\text{C}$ ) (Rated dc voltage, $T_C = 125^\circ\text{C}$ )	$I_R$	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

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**MECHANICAL CHARACTERISTICS**

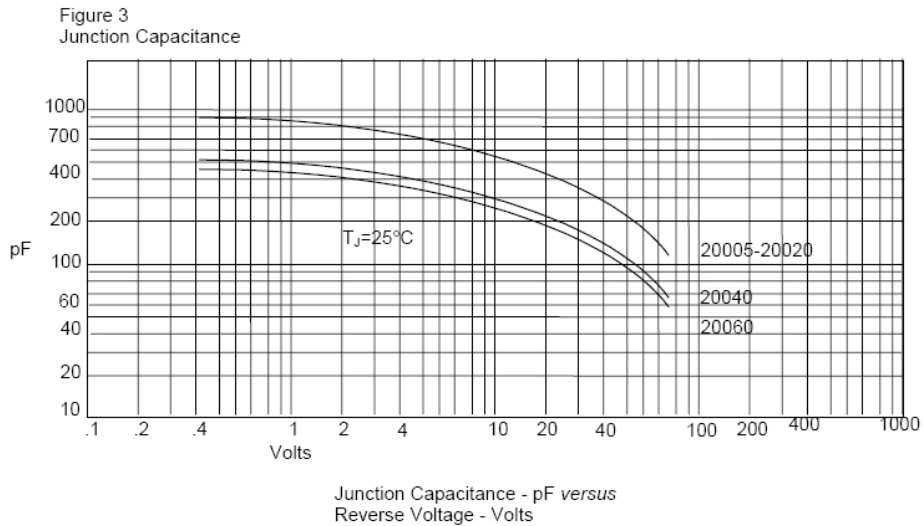
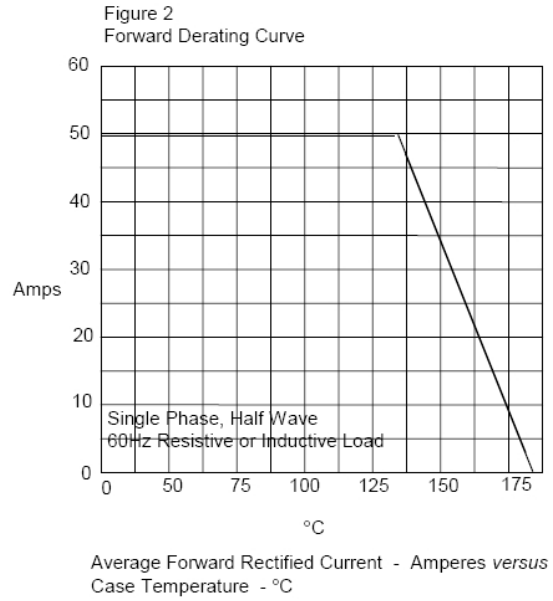
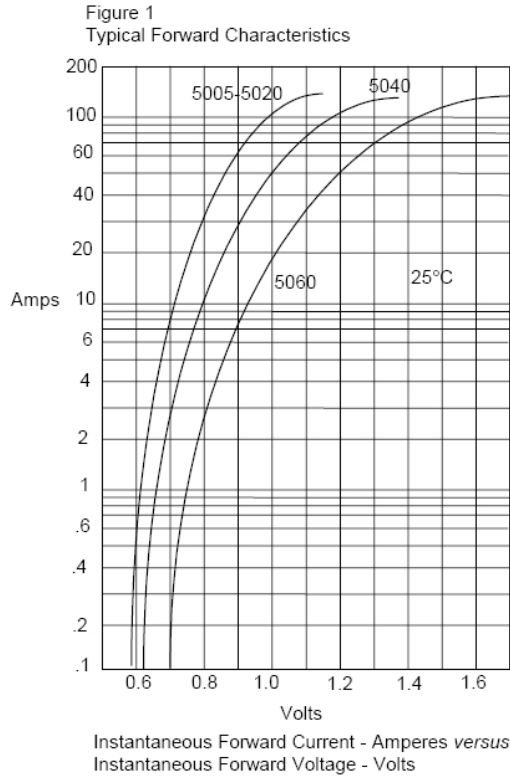
<b>Case</b>	DO-5(R)
<b>Marking</b>	Alpha-numeric
<b>Normal polarity</b>	Cathode is stud
<b>Reverse polarity</b>	Anode is stud (add "R" suffix)



	DO-5(R)			
	Inches		Millimeters	
	Min	Max	Min	Max
<b>A</b>	1/4-28 UNF2A threads			
<b>B</b>	0.669	0.688	16.990	17.480
<b>C</b>	-	0.794	-	20.160
<b>D</b>	-	1.000	-	25.400
<b>E</b>	0.422	0.453	10.720	11.510
<b>F</b>	0.115	0.200	2.920	5.080
<b>G</b>	-	0.450	-	11.430
<b>H</b>	0.220	0.249	5.580	6.320
<b>J</b>	0.250	0.375	6.350	9.530
<b>K</b>	0.156	-	3.960	-
<b>M</b>	-	0.667	-	16.940
<b>N</b>	0.030	0.080	0.760	2.030
<b>P</b>	0.140	0.175	3.560	4.450

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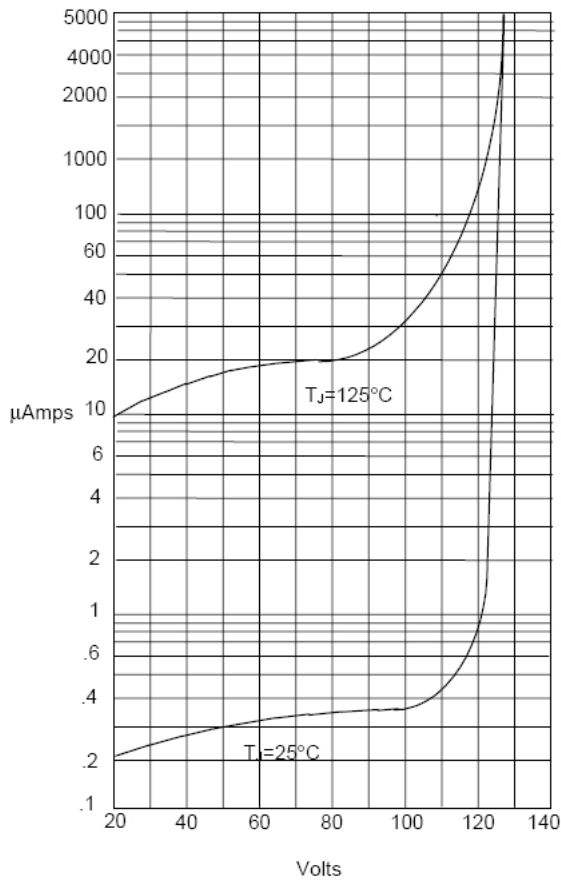
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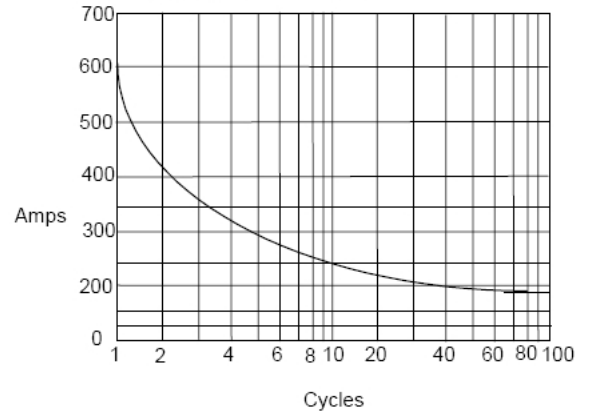
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Figure 4  
Typical Reverse Characteristics



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