

# UFR10010-UFR10020

## 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

Characteristics	Symbol	Test Conditions
Storage temperature range	$T_{stg}$	-65° to 175°C
Operating junction temperature range	$T_J$	-65° to 175°C
Maximum thermal resistance	$R_{\theta JC}$	0.45°C/W junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	0.5°C/W case to sink
Mounting torque		25-30 inch pounds
Weight		0.52 ounce (14.7 grams) typical

### ELECTRICAL CHARACTERISTICS

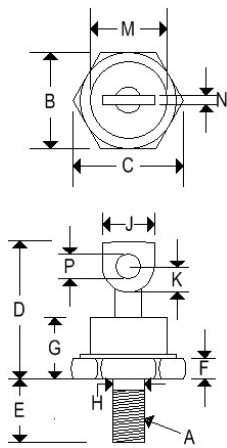
Characteristics	Symbol	UFR10010	UFR10015	UFR10020	Test Conditions
Working peak reverse voltage	$V_{RWM}$	100V	150V	200V	
Repetitive peak reverse voltage	$V_{RRM}$	100V	150V	200V	
Average forward current	$I_{F(AV)}$	100A			$T_C = 143^\circ\text{C}$ , square wave, $R_{\theta JC} = 0.45^\circ\text{C/W}$
Maximum surge current	$I_{FSM}$	1700A			8.3ms, half-sine, $T_J = 175^\circ\text{C}$
Maximum peak forward voltage	$V_{FM}$	0.975V			$I_{FM} = 100\text{A}$ , $T_J = 25^\circ\text{C}$
Maximum reverse recovery time	$t_{rr}$	80ns			$I_F = 1\text{A}$ , $V_R = 30\text{V}$ , $di/dt = -50\text{A}/\mu\text{s}$
Maximum peak reverse current	$I_{RM}$	5mA			$V_{RRM}$ , $T_J = 125^\circ\text{C}$
Maximum peak reverse current	$I_{RM}$	25 $\mu\text{A}$			$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$	675pF			$V_R = 10\text{V}$ , $f = 1\text{MHz}$ , $T_J = 25^\circ\text{C}$

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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>	¼-28 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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## ULTRA FAST RECOVERY RECTIFIERS

Figure 1  
Typical Forward Characteristics

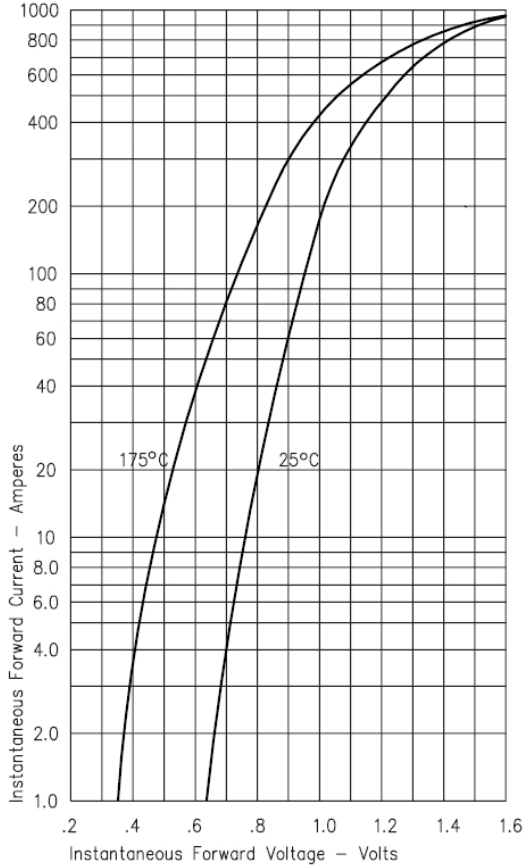


Figure 3  
Typical Junction Capacitance

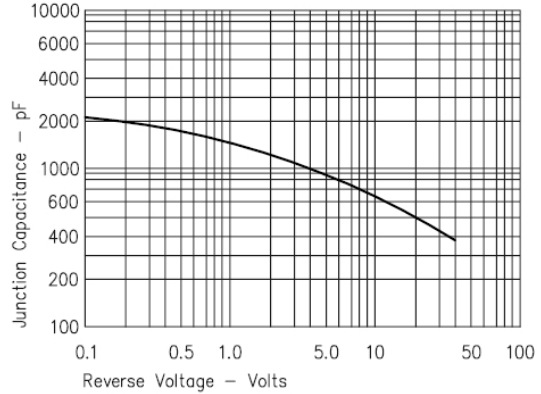


Figure 4  
Forward Current Derating

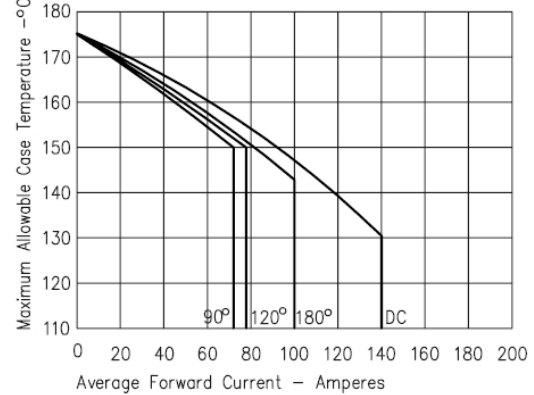


Figure 2  
Typical Reverse Characteristics

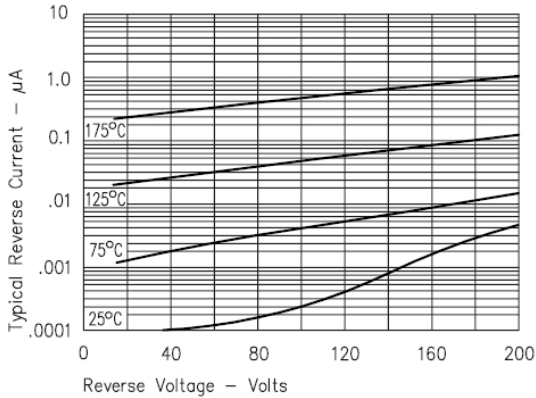


Figure 5  
Maximum Forward Power Dissipation

