

FAST RECOVERY EPITAXIAL DIODE	600V / 8A $V_F=2.1V@I_F=8A, t_{rr}=22ns$
<p>FEATURES</p> <ul style="list-style-type: none"> • UltraFast Recovery Time • Soft Recovery Characteristic • Low Forward Voltage • Low Recovery Loss • High Surge Current Capability • RoHS Compliant <p>APPLICATION</p> <ul style="list-style-type: none"> • Converter, PFC • Freewheeling, Snubber • UPS, Plating Power Supply • Inversion Welder <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case : TO-220AC Molded plastic • Epoxy : UL94-0 rate flame retardant 	<p>TO-220AC</p> <p style="text-align: center;">Dimensions in inches (millimeters)</p>

Absolute Maximum Ratings ($T_J=25^{\circ}C$ unless otherwise noted)

PARAMETER		SYMBOL	HY8FR060T	UNITS
		MARKING	8FR060T	
Repetitive Peak Reverse Voltage		V_{RRM}	600	V
Average Rectified Forward Current	$T_J=110^{\circ}C$	$I_{F(AV)}$	8	A
Non-Repetitive Surge Forward Current $T_p=10ms(50HZ)$ Sine Wave	$T_J=25^{\circ}C$	I_{FSM}	110	A
Avalanche Energy with Single Pulse ($L=40mH$)		E_{AS}	80	mJ
Maximum Power Dissipation		P_D	50	W
Operating Junction and Storage Temperatures		T_J, T_{Stg}	-55 to 150	$^{\circ}C$

Thermal & Mechanical Specifications

PARAMETER	SYMBOL	HY8FR060T	UNITS
Junction-to-Case Thermal Resistance, Per leg	$R_{\theta JC}$	2.5	$^{\circ}C/W$
Junction-to Ambient Thermal Resistance, Per leg	$R_{\theta JA}$	70	$^{\circ}C/W$
Weight		2.14	g
Mounting Torque		1.1	Nt.m

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Electrical Characteristics & Curves ($T_J=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Units
Breakdown Voltage	V_{BR}	$I_R=100\mu\text{A}$	600	-	-	V
Forward Voltage	V_F	$I_F=8\text{A}$	-	1.7	2.1	V
		$I_F=8\text{A}, T_J=125^\circ\text{C}$	-	1.4	1.9	V
Reverse Leakage Current	I_R	$V_R=600\text{V}$	-	-	10	μA
		$V_R=600\text{V}, T_J=125^\circ\text{C}$	-	-	250	μA

Dynamic Recovery Characteristics

Reverse Recovery Time	t_{rr}	$I_F=1\text{A}, V_R=30\text{V}, dI_F/dt=-200\text{A/us}$	-	18	28	ns
Reverse Recovery Time	t_{rr}	$I_F=8\text{A}, V_R=300\text{V}$ $dI_F/dt=-200\text{A/us}$	-	22	-	ns
Peak Recovery Current	I_{RRM}		-	2.5	-	A
Reverse Recovery Charge	Q_{rr}	$I_F=8\text{A}, V_R=300\text{V}$ $dI_F/dt=-200\text{A/us}, T_J=125^\circ\text{C}$	-	28	-	nC
Reverse Recovery Time	t_{rr}		-	48	-	ns
Peak Recovery Current	I_{RRM}	$I_F=8\text{A}, V_R=300\text{V}$ $dI_F/dt=-200\text{A/us}, T_J=125^\circ\text{C}$	-	5.5	-	A
Reverse Recovery Charge	Q_{rr}		-	135	-	nC

FIG. 1 - Typical Forward Voltage Drop Characteristics

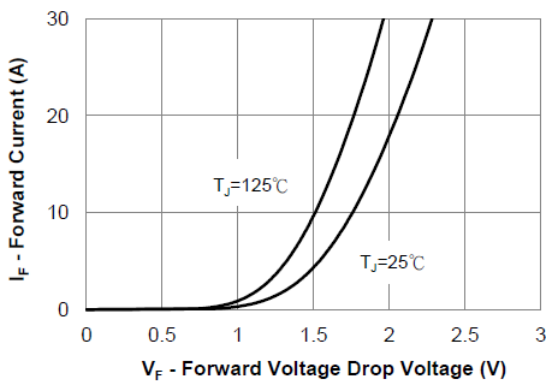


FIG. 2 - Typical Value of Reverse Current vs. Reverse Voltage

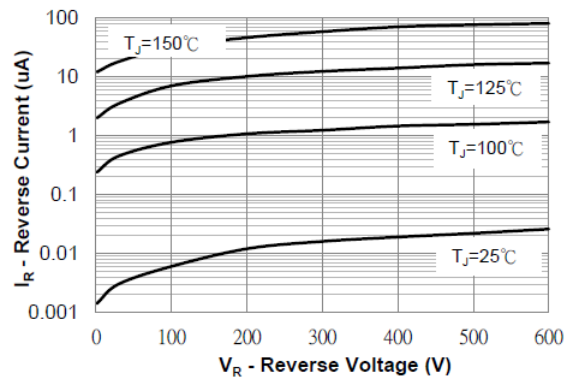


FIG. 3 - Typical Junction Capacitance vs. Reverse Voltage

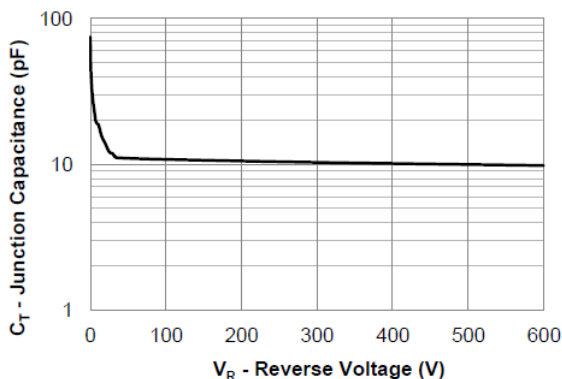


FIG. 4 - Average Forward Current vs. Maximum Allowable Case Temperature

