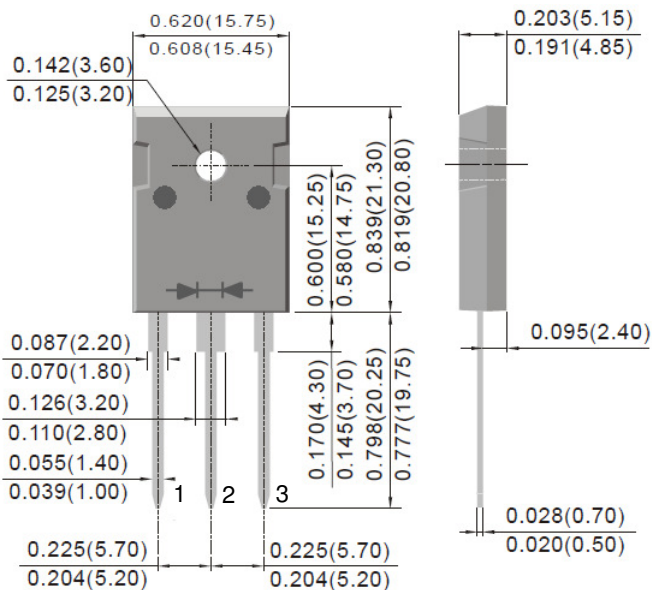


FAST RECOVERY EPITAXIAL DIODE		600V / 30A $V_F=1.8V@I_F=15A, t_{rr}=28ns$	
FEATURES <ul style="list-style-type: none"> UltraFast Recovery Time Soft Recovery Characteristic Low Forward Voltage Low Recovery Loss High Surge Current Capability RoHS Compliant APPLICATION <ul style="list-style-type: none"> Converter, PFC Freewheeling, Snubber UPS, Plating Power Supply Inversion Welder MECHANICAL DATA <ul style="list-style-type: none"> Case : TO - 247AB Molded plastic Epoxy : UL94-0 rate flame retardant Polarity : As marked 		TO - 247AB  <p>Dimensions in millimeters (inches)</p>	

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

PARAMETER		SYMBOL	HY30FR060P	UNITS
		MARKING	30FR060P	
Repetitive Peak Reverse Voltage		V_{RRM}	600	V
Average Rectified Forward Current	$T_J=110^{\circ}C$, Per leg	$I_{F(AV)}$	15	A
	$T_J=110^{\circ}C$, Per device		30	
Non-Repetitive Surge Forward Current $T_P=10ms(50HZ)$ Sine Wave	$T_J=25^{\circ}C$	I_{FSM}	180	A
Avalanche Energy with Single Pulse ($L=40mH$)		E_{AS}	120	mJ
Maximum Power Dissipation		P_D	110	W
Operating Junction and Storage Temperatures		T_J, T_{Stg}	-55 to 150	$^{\circ}C$

Thermal & Mechanical Specifications

PARAMETER	SYMBOL	HY30FR060P	UNITS
Junction-to-Case Thermal Resistance, Per leg	$R_{\theta JC}$	1.1	$^{\circ}C/W$
Junction-to Ambient Thermal Resistance, Per leg	$R_{\theta JA}$	40	$^{\circ}C/W$
Weight		5.2	g
Mounting Torque		1.1	Nt.m

COMPANY RESERVES THE RIGHT TO IMPROVE PRODUCT DESIGN,FUNCTIONS AND RELIABILITY WITHOUT NOTICE

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	$I_F=15\text{A}$	-	1.3	1.8	V
		$I_F=15\text{A}, T_J=125^{\circ}\text{C}$	-	1.1	1.5	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}	$I_F=1\text{A}, V_R=30\text{V}, dI_F/dt=-200\text{A}/\mu\text{s}$	-	20	28	ns
Reverse Recovery Time	t_{rr}	$I_F=15\text{A}, V_R=300\text{V}$ $dI_F/dt=-200\text{A}/\mu\text{s}$	-	28	-	ns
Peak Recovery Current	I_{RRM}		-	3.6	-	A
Reverse Recovery Charge	Q_{rr}		-	50	-	nC
Reverse Recovery Time	t_{rr}	$I_F=15\text{A}, V_R=300\text{V}$ $dI_F/dt=-200\text{A}/\mu\text{s}, T_J=125^{\circ}\text{C}$	-	72	-	ns
Peak Recovery Current	I_{RRM}		-	8.2	-	A
Reverse Recovery Charge	Q_{rr}		-	295	-	nC

FIG. 1 - Typical Forward Voltage Drop Characteristics

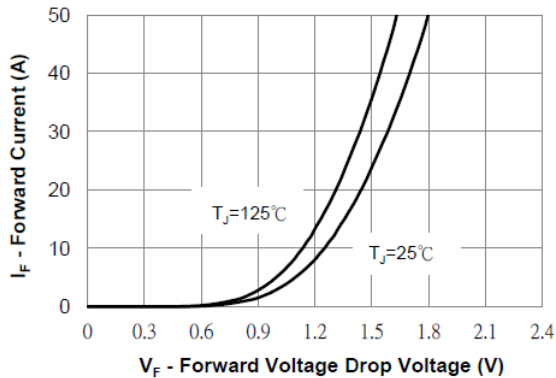


FIG. 2 - Typical Value of Reverse Current vs. Reverse Voltage

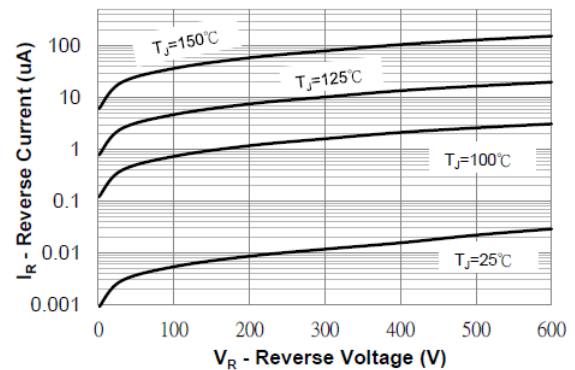


FIG. 3 - Typical Junction Capacitance vs. Reverse Voltage

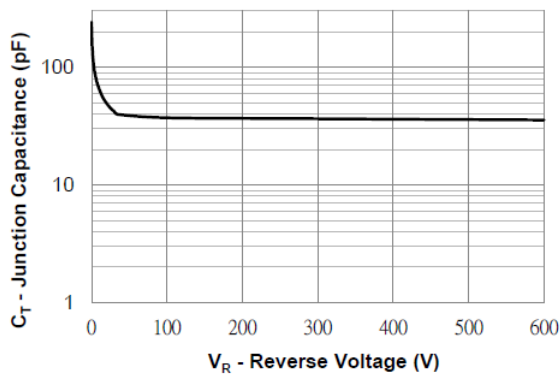


FIG. 4 - Average Forward Current vs. Maximum Allowable Case Temperature

