FAST RECOVERY EPITAXIAL DIODE

600V / 30A
V_F=1.8V@I_F=15A, t_{rr}=28ns

FEATURES

- UltraFast Recovery Time
- Soft Recovery Characteristic
- Low Forward Voltage
- Low Recovery Loss
- High Surge Current Capability
- RoHS Compliant

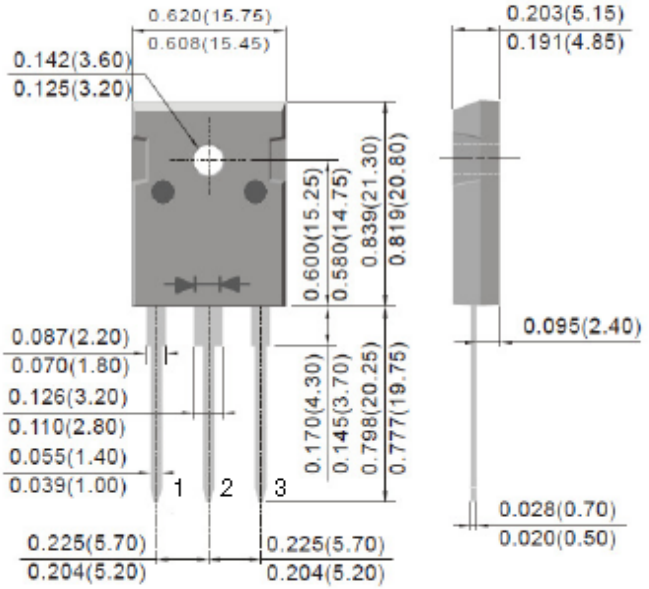
APPLICATION

- Converter, PFC
- Freewheeling, Snubber
- UPS, Plating Power Supply
- Inversion Welder

MECHANICAL DATA

- Case : TO - 247AB Molded plastic
- Epoxy : UL94-0 rate flame retadant
- Polarity : As marked

TO - 247AB



Dimensions in millimeters (inches)

Absolute Maximum Ratings (T_J=25°C unless otherwise noted)

PARAMETER		SYMBOL / MARKING	HY30FR060P / 30FR060P	UNITS
Repetitive Peak Reverse Voltage		V_{RRM}	600	V
Average Rectified Forward Current	T_J=110°C, Per leg	$I_{F(AV)}$	15	A
	T_J=110°C, Per device		30	
Non-Repetitive Surge Forward Current T_P=10ms(50HZ) Sine Wave	T_J=25°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	°C

Thermal & Mechanical Specifications

PARAMETER	SYMBOL	HY30FR060P	UNITS
Junction-to-Case Thermal Resistance, Per leg	$R_{\theta JC}$	1.1	°C/W
Junction-to Ambient Thermal Resistance, Per leg	$R_{\theta JA}$	40	°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

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Electrical Characteristics & Curves (T_J=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	Min.	Typ.	Max.	Units
Breakdown Voltage	V_{BR}	I_R=100uA	600	-	-	V
Forward Voltage	V_F	I_F=15A	-	1.3	1.8	V
		I_F=15A, T_J=125°C	-	1.1	1.5	V
Reverse Leakage Current	I_R	V_R=600V	-	-	10	uA
		V_R=600V, T_J=125°C	-	-	250	uA
DYNAMIC RECOVERY CHARACTERISTICS						
Reverse Recovery Time	t_{rr}	I_F=1A, V_R=30V, dI_F/dt=-200A/us	-	20	28	ns
Reverse Recovery Time	t_{rr}	I_F=15A, V_R=300V dI_F/dt=-200A/us	-	28	-	ns
Peak Recovery Current	I_{RRM}		-	3.6	-	A
Reverse Recovery Charge	Q_{rr}		-	50	-	nC
Reverse Recovery Time	t_{rr}	I_F=15A, V_R=300V dI_F/dt=-200A/us, T_J=125°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

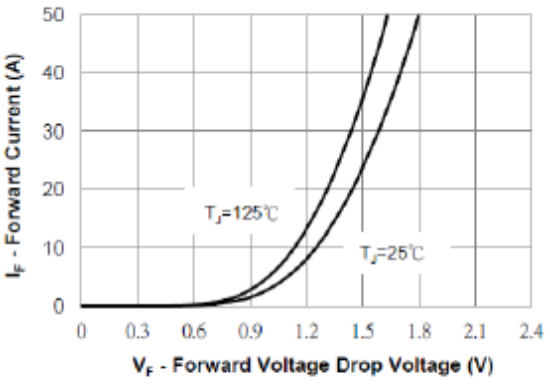


FIG. 2 - Typical Value of Reverse Current vs. Reverse Voltage

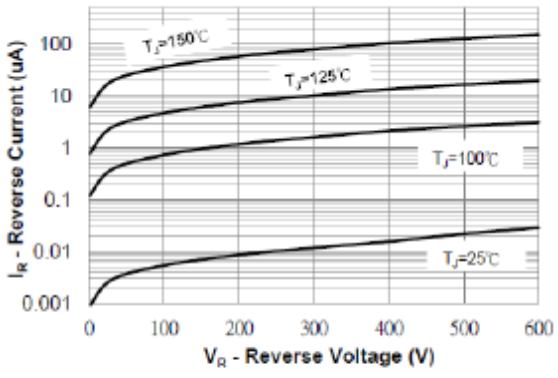


FIG. 3 - Typical Junction Capacitance vs. Reverse Voltage

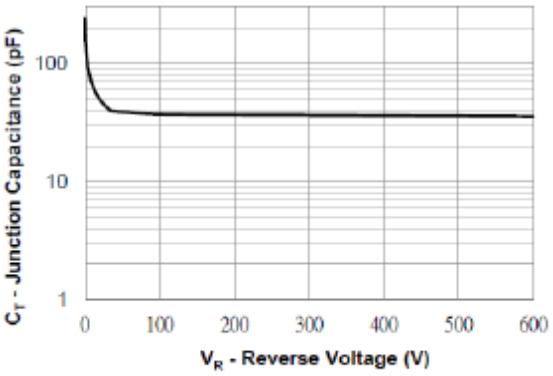
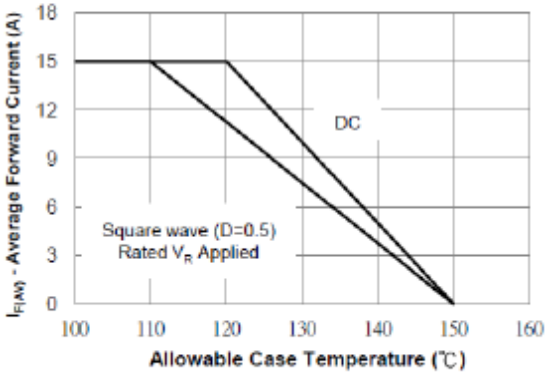


FIG. 4 - Average Forward Current vs. Maximum Allowable Case Temperature



The cruve graph is for reference only, can't be the basis for judgment(曲线图仅供参考)!

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