HYD30A02T

FAST RECOVERY EPITAXIAL DIODE

200V / 30A
V_F=1.0V @ I_F=30A, t_{rr}=26ns

PRODUCT FEATURES

- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current

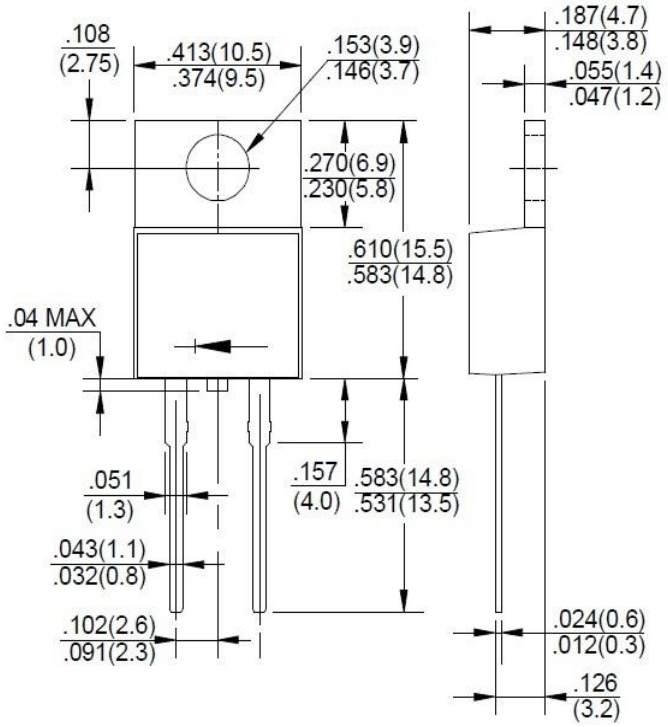
APPLICATIONS

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

MECHANICAL DATA

- Case : TO-220AC Molded Plastic
- Epoxy : UL94V-0 rate flame retadant
- Polarity : As Marked

TO-220AC



Dimensions in inches (millimeter)

ABSOLUTE MAXIMUM RATINGS (T_C=25°C unless otherwise specified)

PARAMETER		SYMBOL	VALUES	UNIT
		Marking	D30A02T	
Maximum Repetitive Reverse Voltage		V_{RM}	200	V
Average Forward Current	T_C=100°C	$I_{F(AV)}$	30	A
Non-Repetitive Surge Forward Current	t_P=10ms, 50Hz, Half Sine Wave	I_{FSM}	300	A
Power Dissipation		P_D	41.6	W
Operating Junction and Storage Temperatures		T_J, T_{STG}	-55 to + 150	℃
Thermal Resistance	Junction-to-Case	$R_{\theta JC}$	3.0	℃/w
Module-to-Sink			1.1	Nt.m
Weight			2.1	g

ELECTRICAL AND DYNAMIC RECOVERY CHARACTERISTICS (T_J=25°C, unless otherwise specified)

PARAMETER	TEST CONDITIONS	SYMBOL	Min.	Typ.	Max.	UNIT
Reverse Leakage Current	V_R=200V	I_{RM}	-	-	25	μA
	V_R=200V, T_J=125°C		-	-	250	μA
ForwardVoltage	I_F=30A	V_F	-	0.85	1.0	V
	I_F=30A, T_J=125°C		-	-	0.94	V
Reverse RecoveryTime	I_F=1A, V_R=30V, diF/dt=-200A/μs	trr	-	26	32	ns
Reverse RecoveryTime	V_R=100V, I_F=30A	trr	-	30	-	ns
Max. Reverse Recovery Current	di_F/dt=-200A/μs, T_J=25°C	I_{RRM}	-	2.5	-	A
Reverse RecoveryTime	V_R=100V, I_F=30A	trr	-	45	-	ns
Max. Reverse Recovery Current	di_F/dt=-200A/μs, T_J=125°C	I_{RRM}	-	4.2	-	A

FIG. 1 - Typical Forward Voltage Drop Characteristics

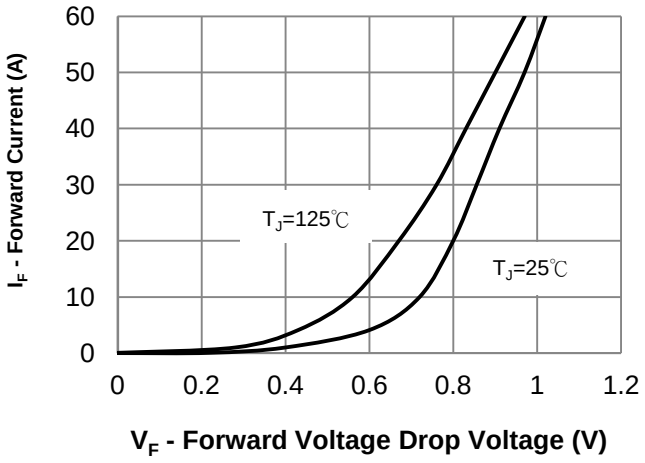


FIG. 2 - Typical Value of Reverse Current vs. Reverse Voltage

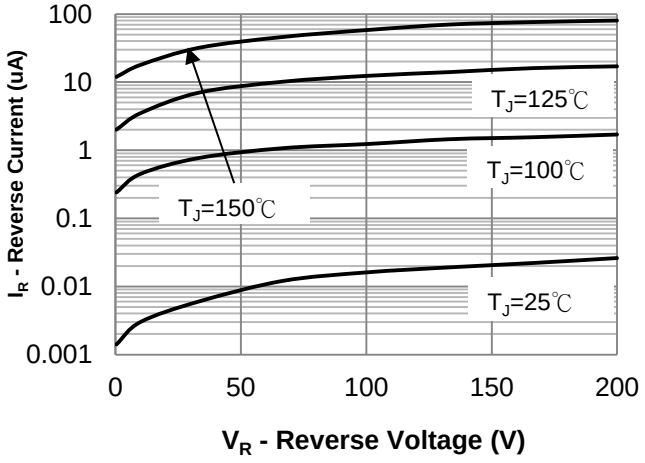


FIG. 3 - Typical Junction Capacitance vs. Reverse Voltage

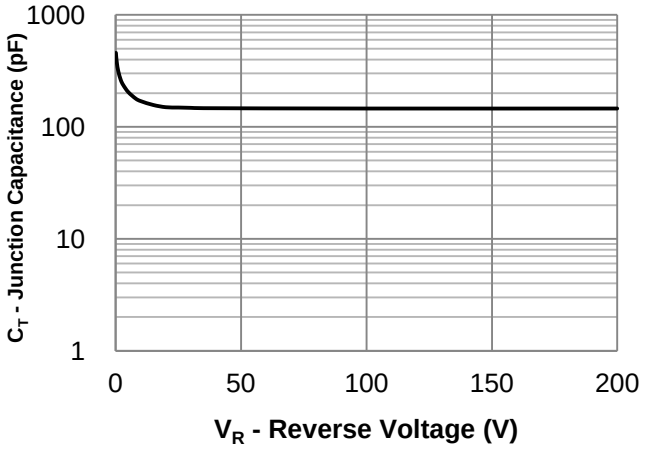


FIG. 4 - Average Forward Current vs. Maximum Allowable Case Temperature