

## FAST RECOVERY EPITAXIAL DIODE

200V / 30A  
 $V_F=1.0V@I_F=30A$ ,  $t_{rr}=35ns$

### PRODUCT FEATURES

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

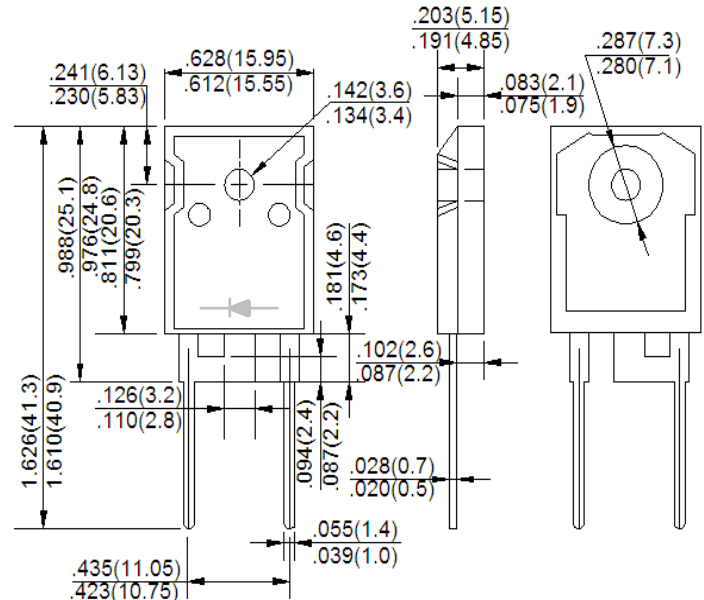
### APPLICATIONS

- Freewheeling, Snubber, Clamp
- Inversion Welder
- Plating Power Supply
- Ultrasonic Cleaner and Welder

### MECHANICAL DATA

- Case : TO-247AC Modified Molded Plastic
- Epoxy : UL94V-0 rate flame retardant
- Polarity : As Marked

### TO-247AC Modified



### ABSOLUTE MAXIMUM RATINGS ( $T_C=25^\circ C$ unless otherwise specified )

PARAMETER	SYMBOL	VALUES	UNIT
	Marking	D30A02EP	
Maximum Repetitive Reverse Voltage	$V_{RM}$	200	V
Average Forward Current	$I_{F(AV)}$	30	A
RMS Forward Current	$I_{F(RMS)}$	52	A
Non-Repetitive Surge Forward Current	$I_{FSM}$	300	A
Power Dissipation	$P_D$	156	W
Operating Junction and Storage Temperatures	$T_J, T_{STG}$	-55 to + 150	$^\circ C$
Thermal Resistance	Junction-to-Case	$R_{\theta JC}$	0.8 $^\circ C/w$
Module-to-Sink			1.1 Nt.m
Weight			6.0 g

### ELECTRICAL AND DYNAMIC RECOVERY CHARACTERISTICS ( $T_J=25^\circ C$ , unless otherwise specified)

PARAMETER	TEST CONDITIONS	SYMBOL	Min.	Typ.	Max.	UNIT
Reverse Leakage Current	$V_R=200V$	$I_{RM}$	-	-	25	$\mu A$
	$V_R=200V, T_J=125^\circ C$		-	-	250	$\mu A$
Forward Voltage	$I_F=30A$	$V_F$	-	0.85	1.0	V
	$I_F=30V, T_J=125^\circ C$		-	-	0.95	V
Reverse Recovery Time	$I_F=1A, V_R=30V, diF/dt=-200A/\mu s$	$t_{rr}$	-	25	32	ns
Reverse Recovery Time	$V_R=100V, I_F=30A$	$t_{rr}$	-	35	-	ns
Max. Reverse Recovery Current	$di_F/dt=-200A/\mu s, T_J=25^\circ C$	$I_{RRM}$	-	35	-	A
Reverse Recovery Time	$V_R=100V, I_F=30A$	$t_{rr}$	-	48	-	ns
Max. Reverse Recovery Current	$di_F/dt=-200A/\mu s, T_J=125^\circ C$	$I_{RRM}$	-	4.2	-	A

FIG. 1 - Typical Forward Voltage Drop Characteristics

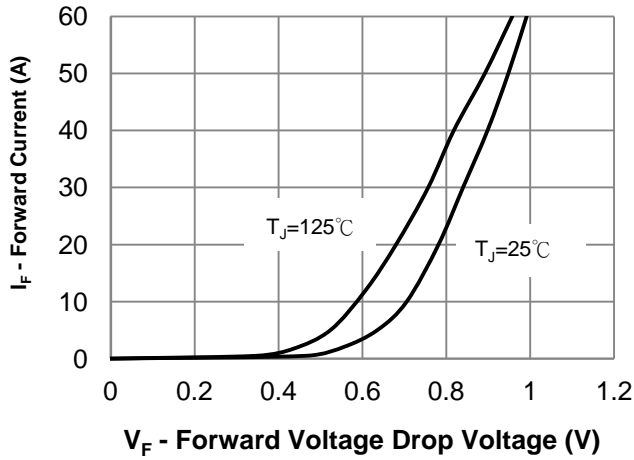


FIG. 2 - Typical Value of Reverse Current vs. Reverse Voltage

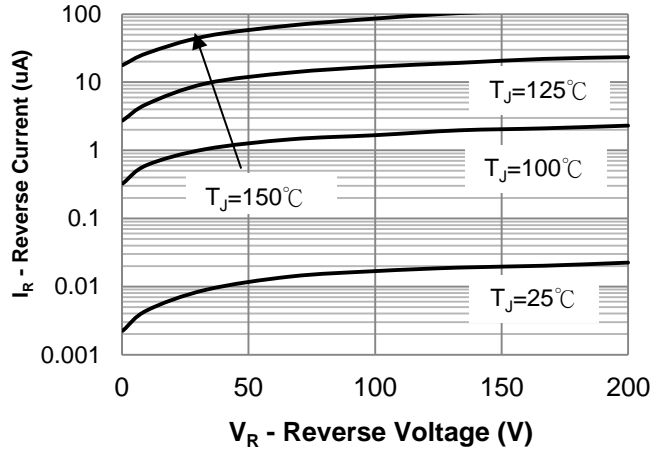


FIG. 3 - Typical Junction Capacitance vs. Reverse Voltage

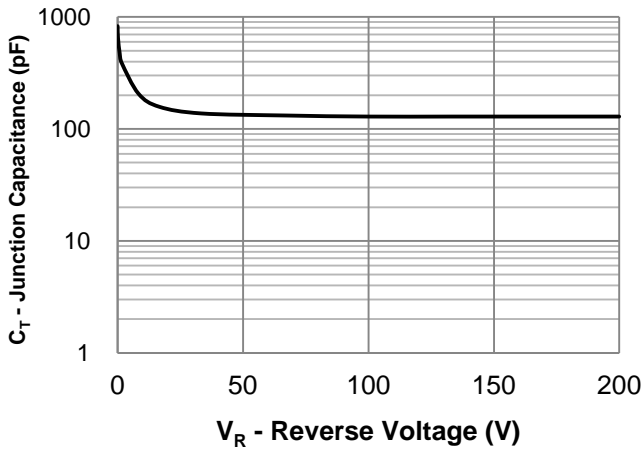


FIG. 4 - Average Forward Current vs. Maximum Allowable Case Temperature

