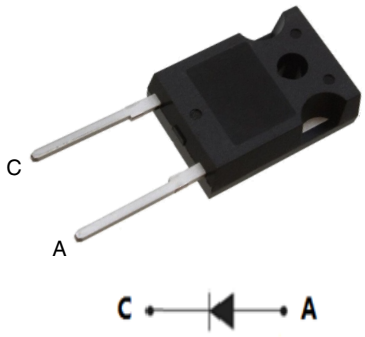
Fast Recover Diode in TO-247AD

Features

- Fast Recovery,trr= 32ns
- Operating Temperature 175℃
- Reverse Voltage 1200V
- Avalanche Energy Rated



Mechanical Data

- **Case:** TO-247AD (plastic package). Lead free; RoHS compliant
- **Molding Compound Flammability Rating:** UL 94 V-0
- **Terminals:** High temperature soldering guaranteed: 260 °C/10 sec. at terminals

Applications

- Switch Mode Power Supplies
- Hard Switched PFC Boost Diode
- UPS Free Wheeling Diode
- Motor Drive FWD
- SMPS FWD

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V_{RRM}	Peak Repetitive Reverse Voltage	1200	V
$I_{F(AV)}$	Diode Continuous Forward Current (T_C=100℃)	30	A
I_{FRM}	Repetitive Peak Surge Current (20kHz Square Wave)	60	A
I_{FSM}	Nonrepetitive Peak Surge Current for Per Diode (Halfwave 1 Phase 50Hz)	300	A
T_J	Operating JunctionTemperatureRange	-55 to +175	℃
T_{STG}	StorageTemperatureRange	-55 to +175	℃

Electrical Specifications (T_J = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V_R	Cathode to Anode Breakdown Voltage	I_R = 100μA	1200			
V_F	Diode Forward Voltage	I_F=30AT_C=25℃		2.6	3.2	V
	Diode Forward Voltage	I_F=30AT_C=125℃		2.4		V
I_{RM}	Maximum Reverse Leakage Current	V_R=1200VT_C=25℃			100	uA
		V_R=1200VT_C=125℃			500	uA

Dynamic Recovery Characteristics(TJ = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
I_{RRM}	Diode Peak Reverse Recovery Current	V_{DD}=30V;I_F=1A; dif/dt=100A/μs; See **Fig.4**		2.23		A
Qrr	Reverse recovery charge (Area Under the Curve Defined by I_{RRM} andtrr).			65		nc
trr	Diode Reverse Recovery Time			48	60	ns
S	S=tb/ta			0.65		
I_{RRM}	Diode Peak Reverse Recovery Current	V_{DD}=600V;I_F=30A; dif/dt=500A/μs; See **Fig.4**		15		A
Qrr	Reverse recovery charge (Area Under the Curve Defined by I_{RRM} andtrr).			450		nc
trr	Diode Reverse Recovery Time			65	80	ns
S	S=tb/ta			1.0		

Fig.1 Forward Current vs Forward Voltage

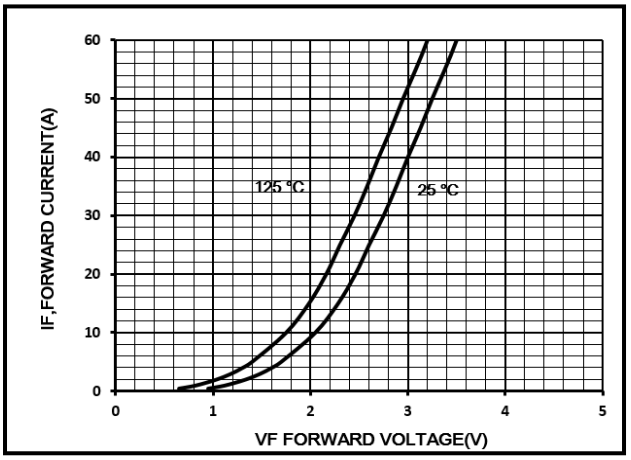


Fig.2 Reverse Current vs Reverse Voltage

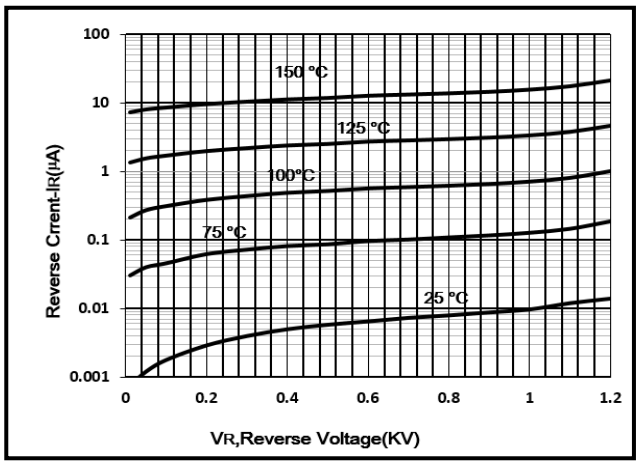
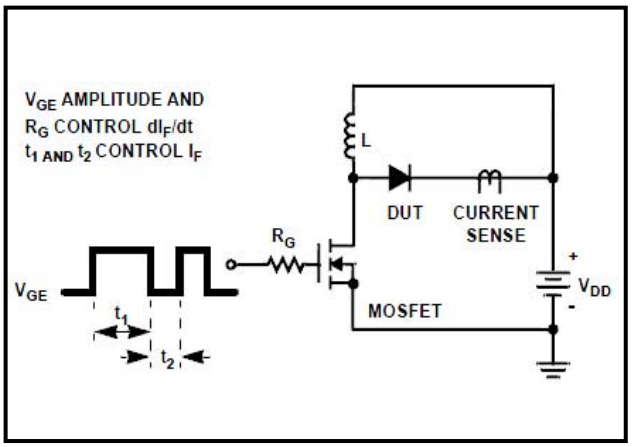
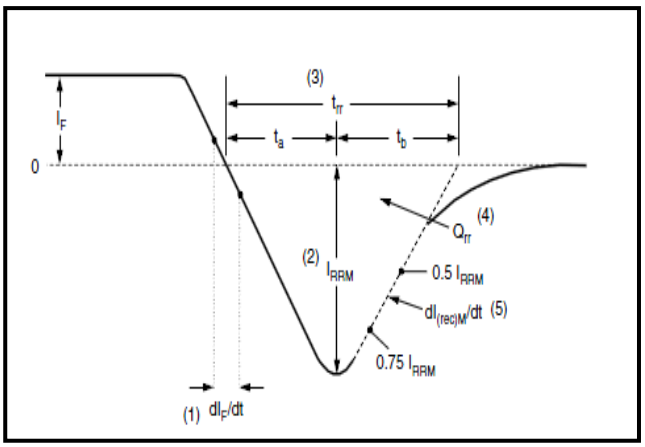
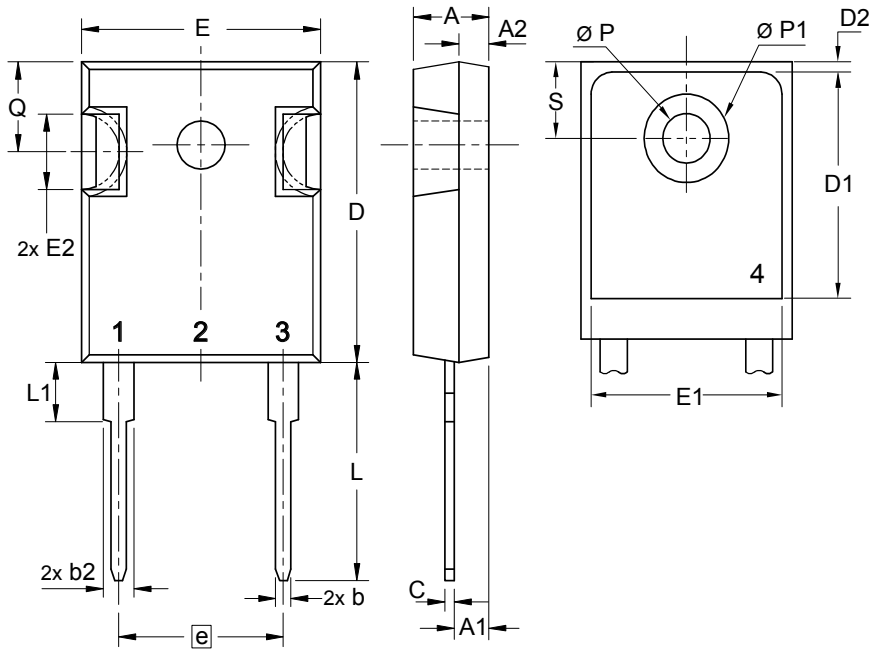


Fig.3 trr Test CircuitFig.4 trr Waveforms and Definitions





Package Dimensions



Sym.	Inches min.	Inches max.	Millimeter min.	Millimeter max.
A	0.185	0.209	4.70	5.30
A1	0.087	0.102	2.21	2.59
A2	0.059	0.098	1.50	2.49
D	0.819	0.845	20.79	21.45
E	0.610	0.640	15.48	16.24
E2	0.170	0.216	4.31	5.48
e	0.430 BSC		10.92 BSC	
L	0.780	0.800	19.80	20.30
L1	-	0.177	-	4.49
Ø P	0.140	0.144	3.55	3.65
Q	0.212	0.244	5.38	6.19
S	0.242 BSC		6.14 BSC	
b	0.039	0.055	0.99	1.40
b2	0.065	0.094	1.65	2.39
b4	0.102	0.135	2.59	3.43
c	0.015	0.035	0.38	0.89
D1	0.515	-	13.07	-
D2	0.020	0.053	0.51	1.35
E1	0.530	-	13.45	-
Ø P1	-	0.29	-	7.39

Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
CXD30120HU	TO-247AD	Tube/BOX	2000pcs / BOX	

Revision history

Date	Revision	Changes
23-May-2012	1.0	Initial release

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