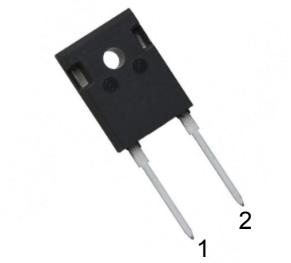
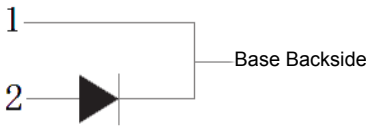
Fast Recover Diode in TO-247AD

Features

- Reverse Voltage 600V
- Fast Recovery, trr <55ns
- Operating Temperature 150℃
- Avalanche Energy Rated





Mechanical Data

- **Case:** TO-247-2L (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	600	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)	500	A
T_J	Operating JunctionTemperatureRange	-55 to +150	℃
T_{STG}	StorageTemperatureRange	-55 to +150	℃

Electrica Specifications (TJ = 25 °C unless otherwise specified for Per Diode)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V_R	Cathode to Anode Breakdown Voltage	I_R = 100μA	600			V
V_F	Diode Forward Voltage	I_F=30AT_C=25℃		1.35	1.6	V
	Diode Forward Voltage	I_F=30AT_C=125℃		1.15		V
I_{RM}	Maximum Reverse Leakage Current	V_R=600VT_C=25℃			100	μA
		V_R=600VT_C=125℃			1	mA

Dynamic Recovery Characteristics (TC=25℃ 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**		2.3	2.8	A
Qrr	Reverse recovery charge (Area Under the Curve Defined by I_{RRM} and trr).			68	90	nc
trr	Diode Reverse Recovery Time			50	55	ns
S	S= tb/ta			0.67		
I_{RRM}	Diode Peak Reverse Recovery Current	V_{DD}=400V;I_F=15A; dif/dt=500A/μs; See **Fig.4**		..	20	A
Qrr	Reverse recovery charge (Area Under the Curve Defined by I_{RRM} and trr).			1250	1570	nc
trr	Diode Reverse Recovery Time			106	120	ns
S	S= tb/ta			0.65		

Typical Characteristics (T_{amb} = 25 °C unless otherwise specified)

Fig.1 Forward Current vs Forward Voltage

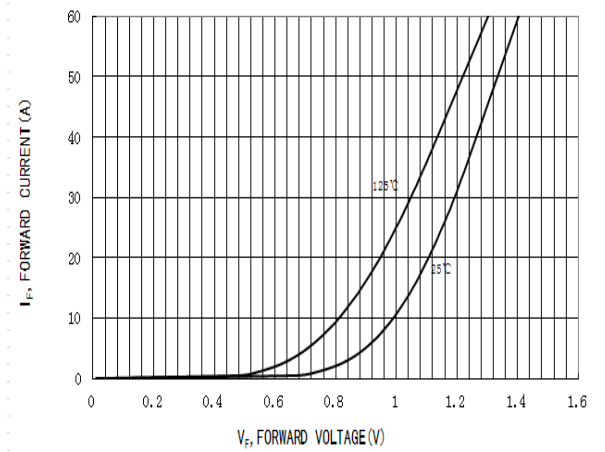


Fig.2 Reverse Current vs Reverse Voltage

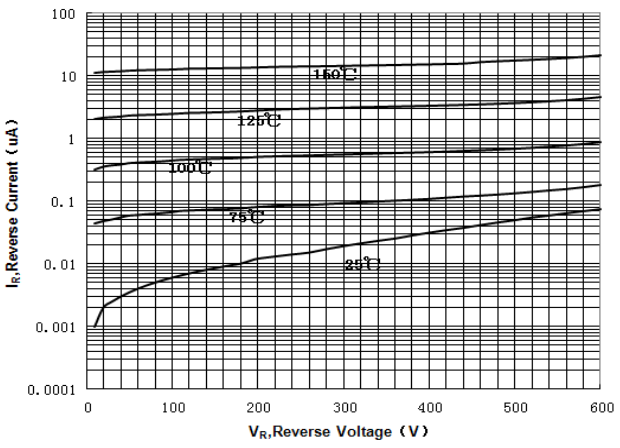


Fig.3 trr Test Circuit

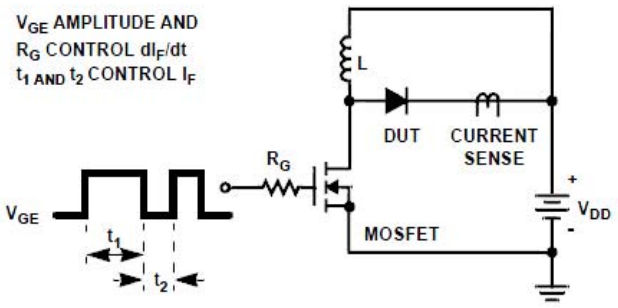
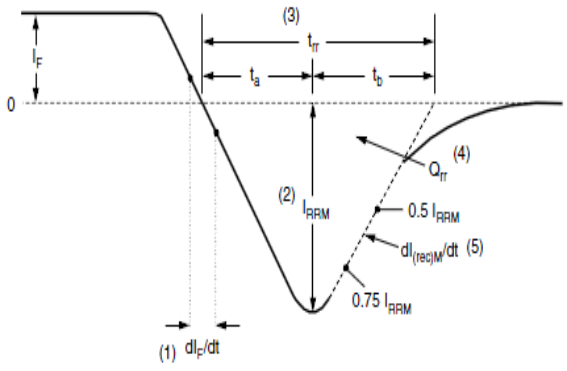
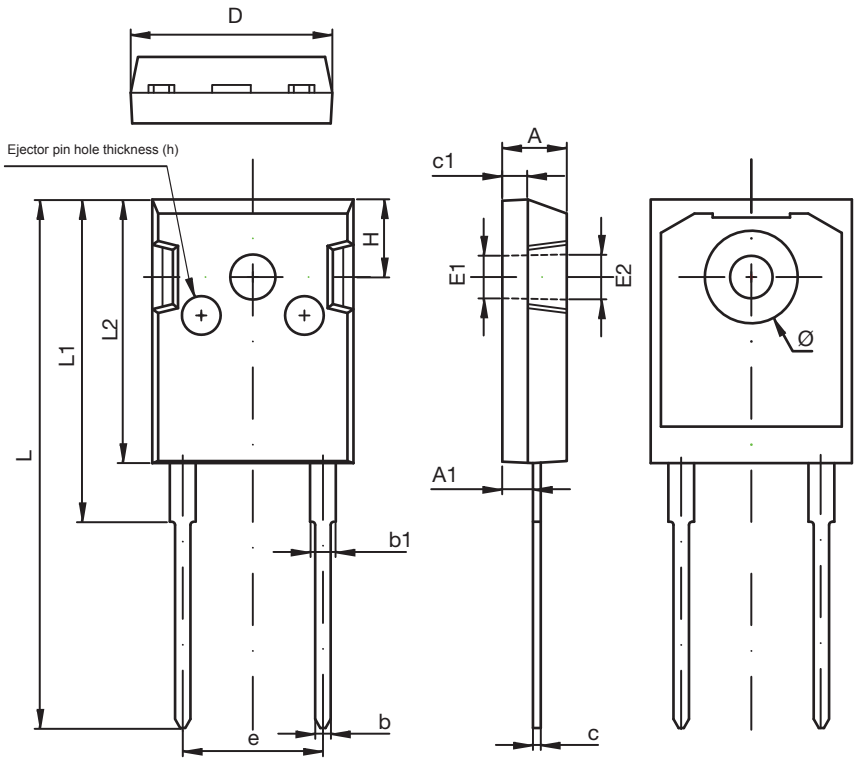


Fig.4 trr Waveforms and Definitions



Package Dimensions



SYMBOL	MM		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	4.850	5.150	0.191	0.200
A1	2.200	2.600	0.087	0.102
b	1.000	1.400	0.039	0.055
b1	1.800	2.200	0.071	0.087
c	0.500	0.700	0.020	0.028
c1	1.900	2.100	0.075	0.083
D	15.450	15.750	0.608	0.620
E1	3.500 Ref.		0.138 Ref.	
E2	3.600 Ref.		0.142 Ref.	
L	40.900	41.300	1.610	1.626
L1	24.800	25.100	0.976	0.988
L2	20.300	20.600	0.799	0.811
Ø	7.100	7.300	0.280	0.287
e	10.900 Typ.		0.429 Typ.	
H	5.980 Typ.		0.235 Typ.	
h	0.000	0.300	0.000	0.012

Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
CXD3060H	TO-247-2L	Tube/BOX	2000pcs / BOX	

Revision history

Date	Revision	Changes
23-May-2012	1.0	Initial release

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