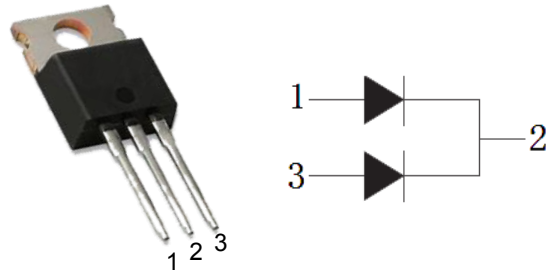


Fast Recover Diode in TO-220

Features

- Reverse Voltage 400V
- Fast Recovery, $t_{rr} = 29\text{ns}$
- Operating Temperature 150°C
- Avalanche Energy Rated



Mechanical Data

- **Case:** TO-220 (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	400	V
$I_{F(AV)}$	Diode Continuous Forward Current ($T_C=100^\circ\text{C}$)	20	A
I_{FRM}	Repetitive Peak Surge Current (20kHz Square Wave)	40	A
I_{FSM}	Nonrepetitive Peak Surge Current for Per Diode (Halfwave 1 Phase 50Hz)	100	A
T_J	Operating JunctionTemperatureRange	-55 to +150	°C
T_{STG}	StorageTemperatureRange	-55 to +150	°C

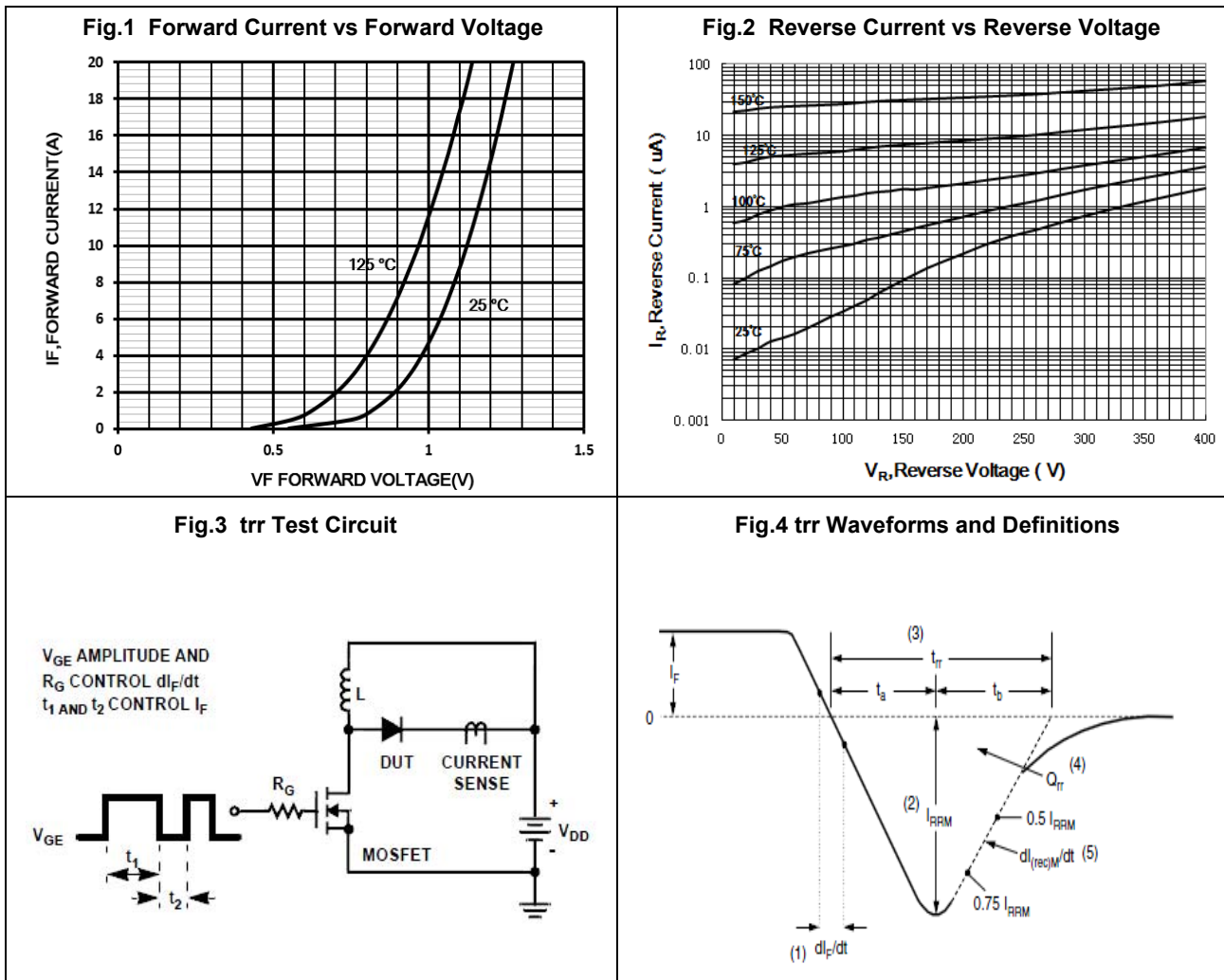
Electrica Specifications ($T_J = 25^\circ\text{C}$ unless otherwise specified for Per Diode)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V_R	Cathode to Anode Breakdown Voltage	$I_R = 100\mu\text{A}$	400			V
V_F	Diode Forward Voltage	$I_F=10\text{A}, T_C=25^\circ\text{C}$		1.10	1.3	V
	Diode Forward Voltage	$I_F=10\text{A}, T_C=125^\circ\text{C}$		1.00		V
I_{RM}	Maximum Reverse Leakage Current	$V_R=400\text{V}, T_C=25^\circ\text{C}$			100	μA
		$V_R=400\text{V}, T_C=125^\circ\text{C}$			1	mA

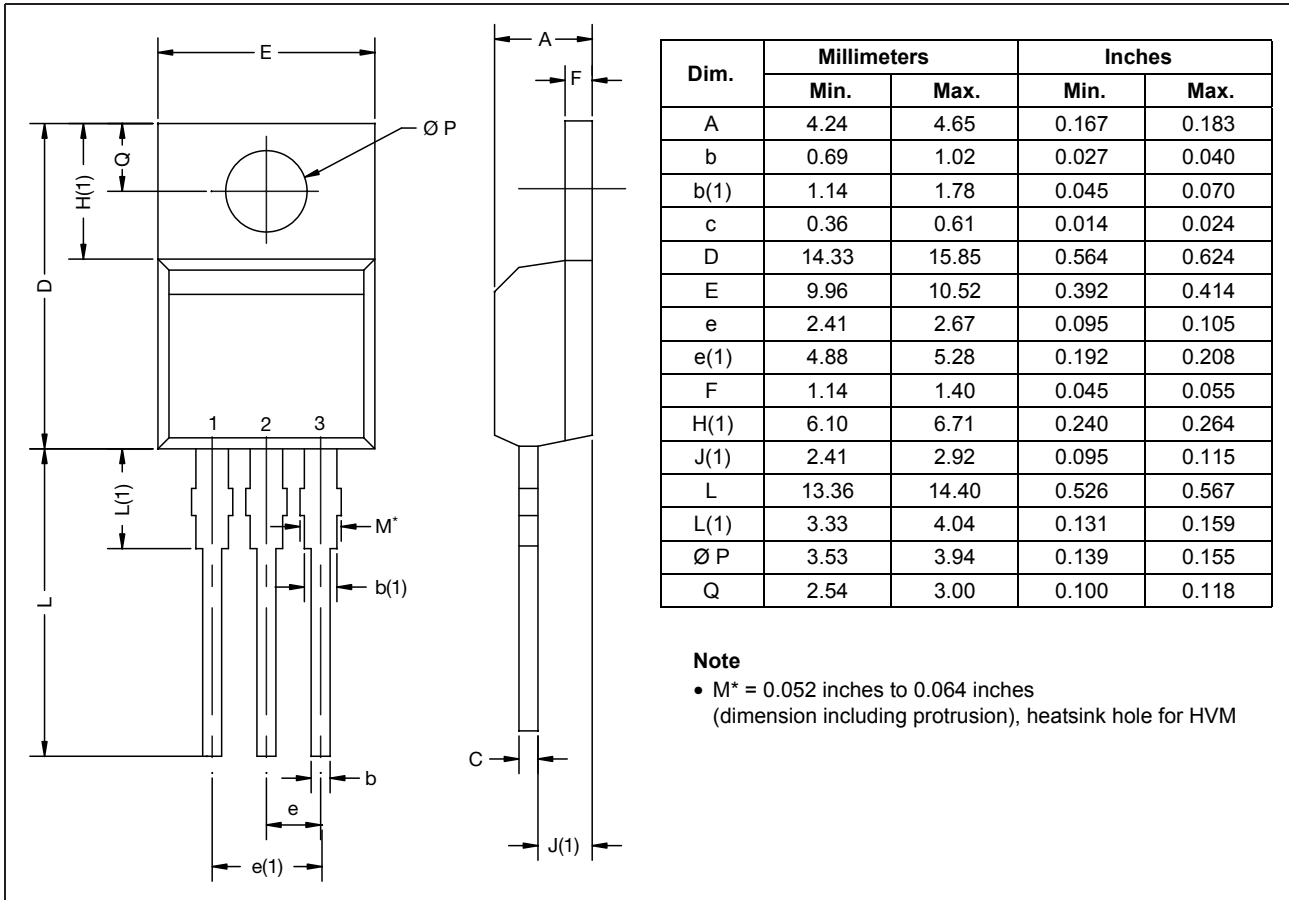
Dynamic Recovery Characteristics ($T_C=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
I_{RRM}	Diode Peak Reverse Recovery Current	$V_{DD}=30\text{V}; I_F=1\text{A};$ $di_f/dt=100\text{A}/\mu\text{s};$ See Fig.2		1.53		A
Q_{rr}	Reverse recovery charge (Area Under the Curve Defined by I_{RRM} and t_{rr}).			24.5		nc
t_{rr}	Diode Reverse Recovery Time			29	35	ns
S	$S= t_b/t_a$			0.7		
I_{RRM}	Diode Peak Reverse Recovery Current	$V_{DD}=300\text{V}; I_F=10\text{A};$ $di_f/dt=500\text{A}/\mu\text{s};$ See Fig.2		9.1		A
Q_{rr}	Reverse recovery charge (Area Under the Curve Defined by I_{RRM} and t_{rr}).			200		nc
t_{rr}	Diode Reverse Recovery Time			35.5	45	ns
S	$S= t_b/t_a$			0.5		

Typical Characteristics ($T_{amb} = 25^{\circ}\text{C}$ unless otherwise specified)



Package Dimensions



Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
CXD2040PD	TO-220	Tube/BOX	2000pcs / BOX	

Revision history

Date	Revision	Changes
23-May-2012	1.0	Initial release

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