

FMXA-4206S

Jan. 2010

Fast Recovery Diode

General Description

FRD that has ultra speed trr is incorporated into high-current package TO-3PF.

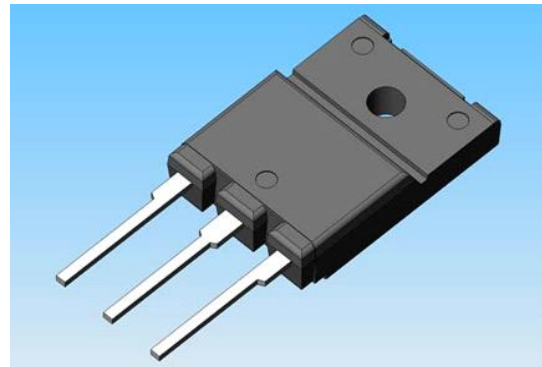
Sanken original compound life time killer technology realized to keep ultra speed trr under high temperature operation.

Applications

- DC-DC converters. (Forward type/ flyback type)
- CCM type PFC circuit
(Sequence type power factor improvement circuit)
- Inverter type welding and cutting machine

Features

- An ultrafast recovery diode.
- Keep ultrafast speed at high temperature (Typ 68ns, $T_j=150^{\circ}\text{C}$)
- A great radiation performance due to high-current package.
- A great isolation performance due to full mold package.

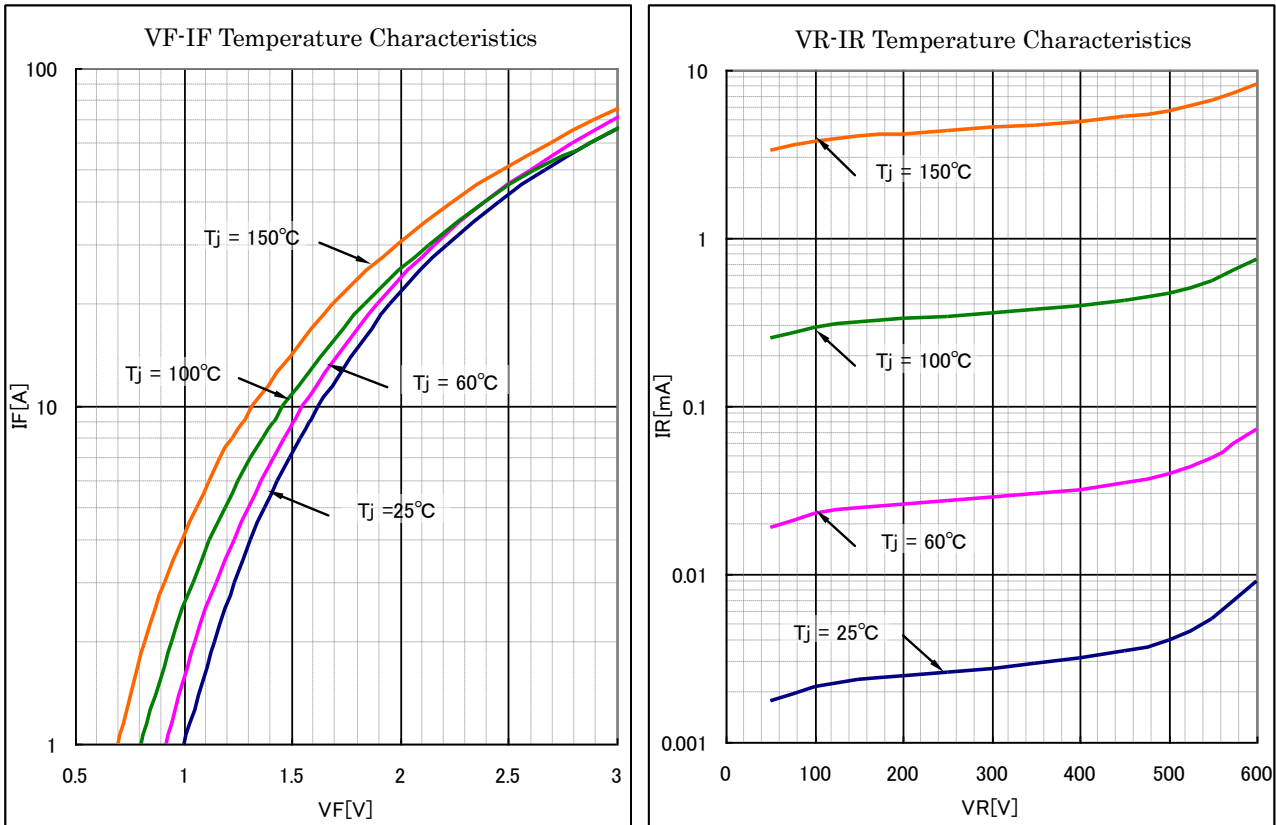
Package (TO-3PF 3pin)**Key Specifications**

Item	Unit	Rating	Conditions
V_{RM}	V	600	
V_F	V	1.98	$I_F=10\text{A}$
$I_{F(AV)}$	A	20	
t_{tr}	ns	28	

The contents in this document are subject to changes, for improvement and other purposes, without notice.

Make sure that this is the latest version of the document before use.

Typical Characteristics



VF-IF & VR-IR show characteristics per one chip.

The contents in this document are subject to changes, for improvement and other purposes, without notice.
 Make sure that this is the latest version of the document before use.

FMXA-4206S

Jan. 2010

Fast Recovery Diode

★ **Absolute maximum ratings**

No.	Item	Symbol	Unit	Rating	Conditions
1	Transient Peak Reverse Voltage	V_{RSM}	V	600	
2	Peak Reverse Voltage	V_{RM}	V	600	
3	Average Forward Current	$I_{F(AV)}$	A	20	Refer to Derating (Page4)
4	Peak Surge Forward Current	I_{FSM}	A	100	10msec. Half sinewave, one shot
5	I^2t Limiting Value	I^2t	A ² s	50	1msec \leq t \leq 10msec
6	Junction Temperature	T_j	°C	-40~+150	
7	Storage Temperature	T_{stg}	°C	-40~+150	

No.1,2,4&5 show characteristics per one chip.

★ **Electrical characteristics (Ta=25°C, unless otherwise specified)**

No.	Item	Symbol	Unit	Value	Conditions
1	Forward Voltage Drop	V_F	V	1.98 max.	$I_F=10A$
2	Reverse Leakage Current	I_R	uA	100 max.	$V_R=V_{RM}$
3	Reverse Leakage Current Under High Temperature	$H \cdot I_R$	mA	30 max.	$V_R=V_{RM}, T_j=150^\circ C$
4	Reverse Recovery Time	t_{rr}	ns	28 max.	$I_F=I_{RP}=500mA$ 90% Recovery point, $T_j=25^\circ C$
5	Thermal Resistance	$R_{th(j-c)}$	°C/W	2.0 max.	Between Junction and case

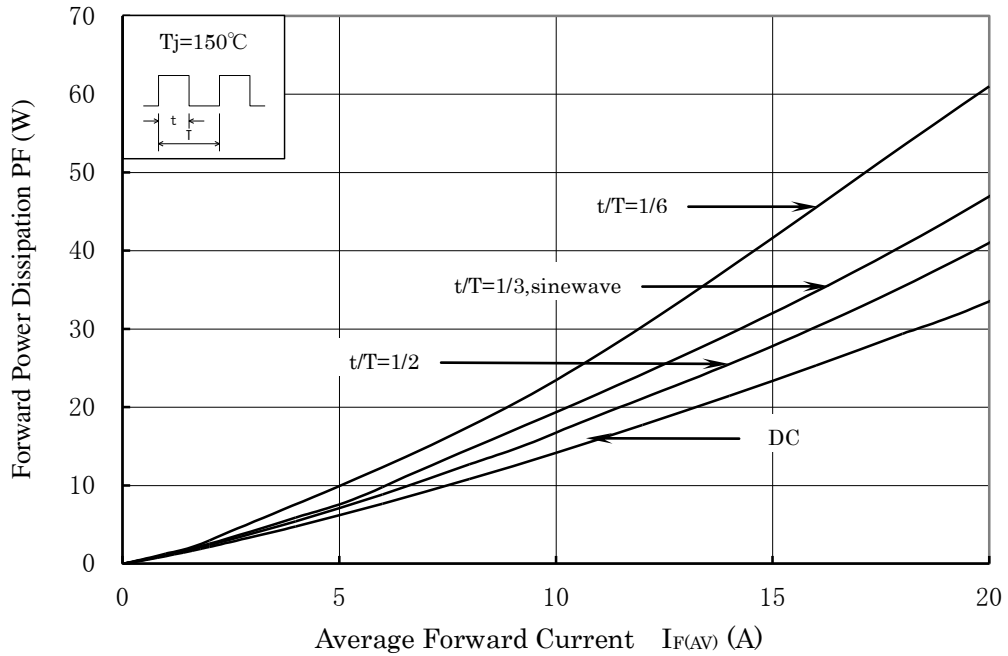
No.1,2,3&4 show characteristics per one chip.

The contents in this document are subject to changes, for improvement and other purposes, without notice.

Make sure that this is the latest version of the document before use.

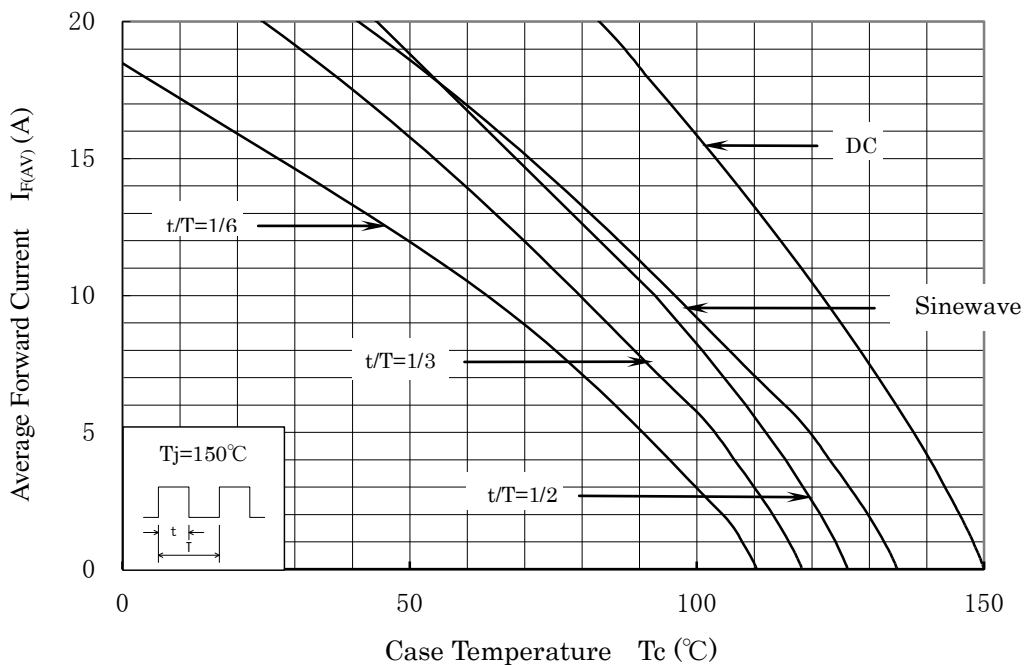
★ **Characteristics**

Average Forward Current — Forward Power Dissipation Characteristics



★ **Derating**

Lead Temperature — Average Forward Current $V_R = 600\text{V}$



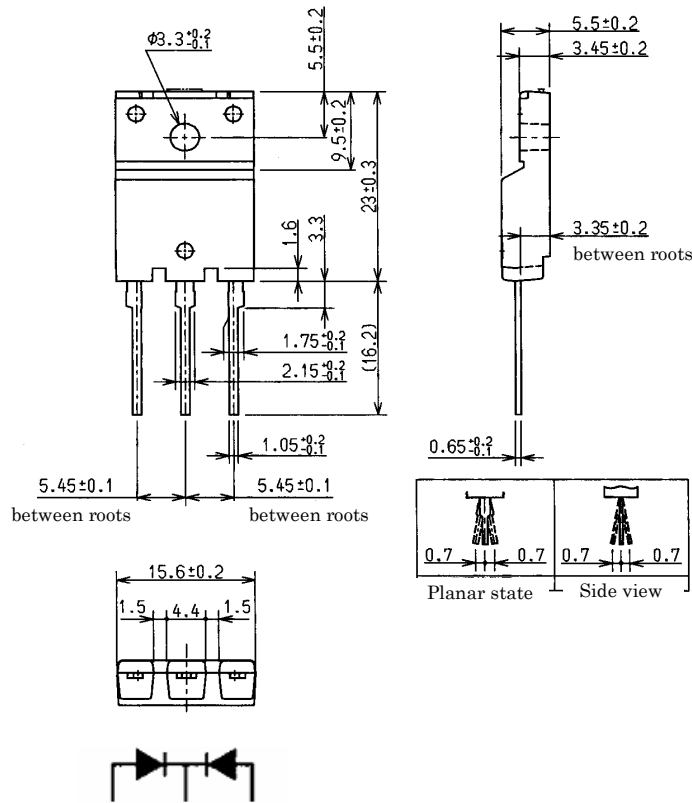
The contents in this document are subject to changes, for improvement and other purposes, without notice.
 Make sure that this is the latest version of the document before use.

FMXA-4206S

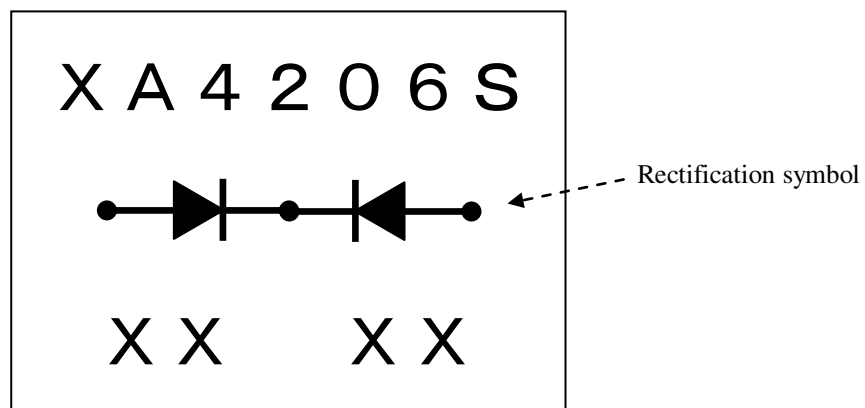
Jan. 2010

Fast Recovery Diode

★ Package information (mm)



★ Marking



XA4206S: Part number FMXA-4206S is described "XA4206S".

XXXX: Lot number (manufacture year, month, day) is described 4-digit numbers.

The contents in this document are subject to changes, for improvement and other purposes, without notice.
Make sure that this is the latest version of the document before use.