

FMXA-4206S

Jan. 2010

Fast Recovery Diode

General Description

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

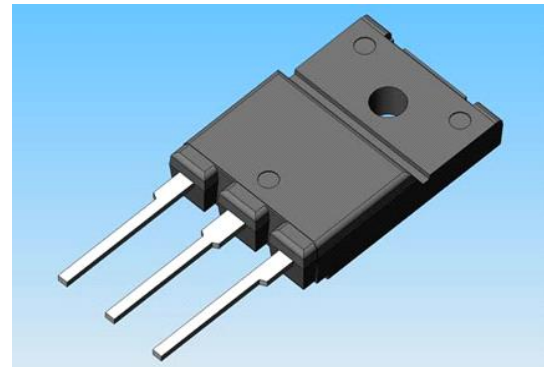
Sanken original compound life time killer technology realized to keep ultra speed trr under high temperature operation.

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

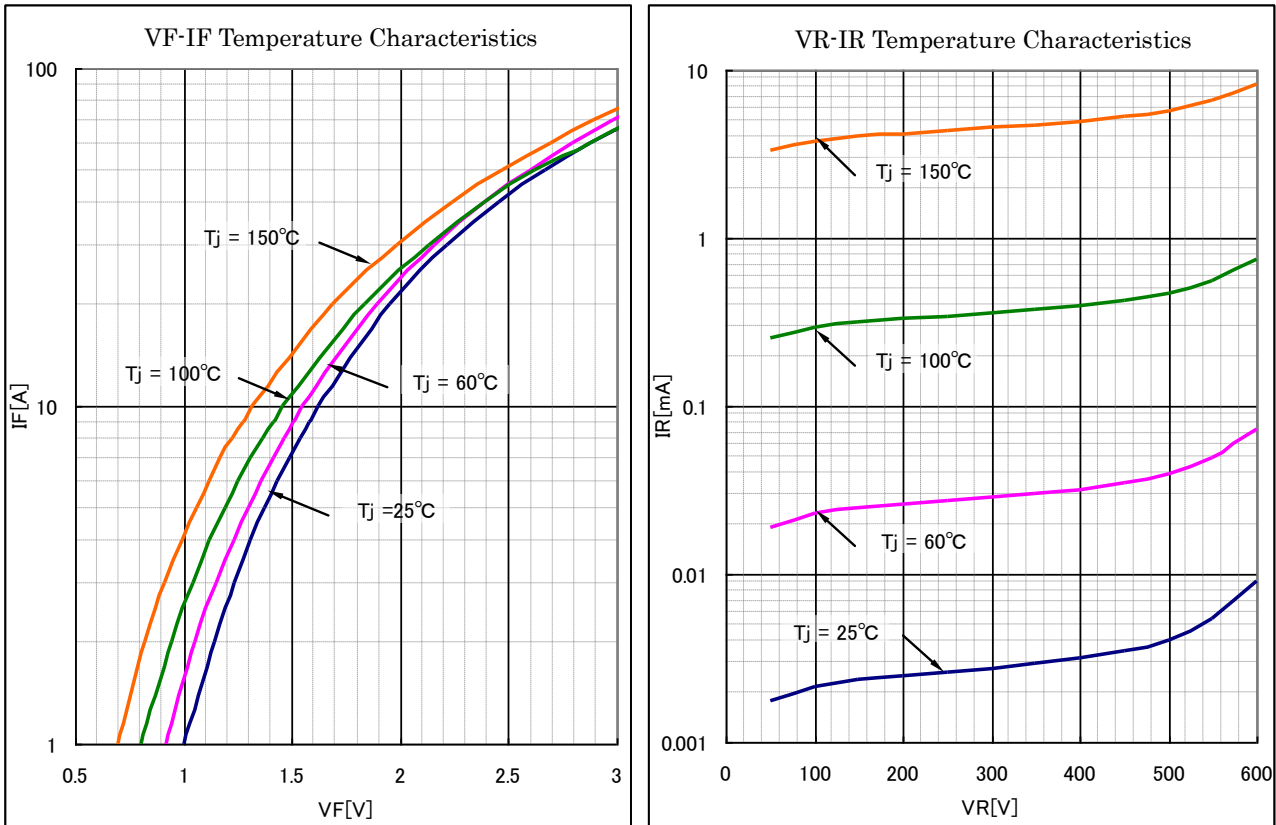
- An ultrafast recovery diode.
- Keep ultrafast speed at high temperature (Typ 68ns, $T_j=150^{\circ}\text{C}$)
- A great radiation performance due to high-current package.
- A great isolation performance due to full mold package.

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	

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Typical Characteristics



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

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★ **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

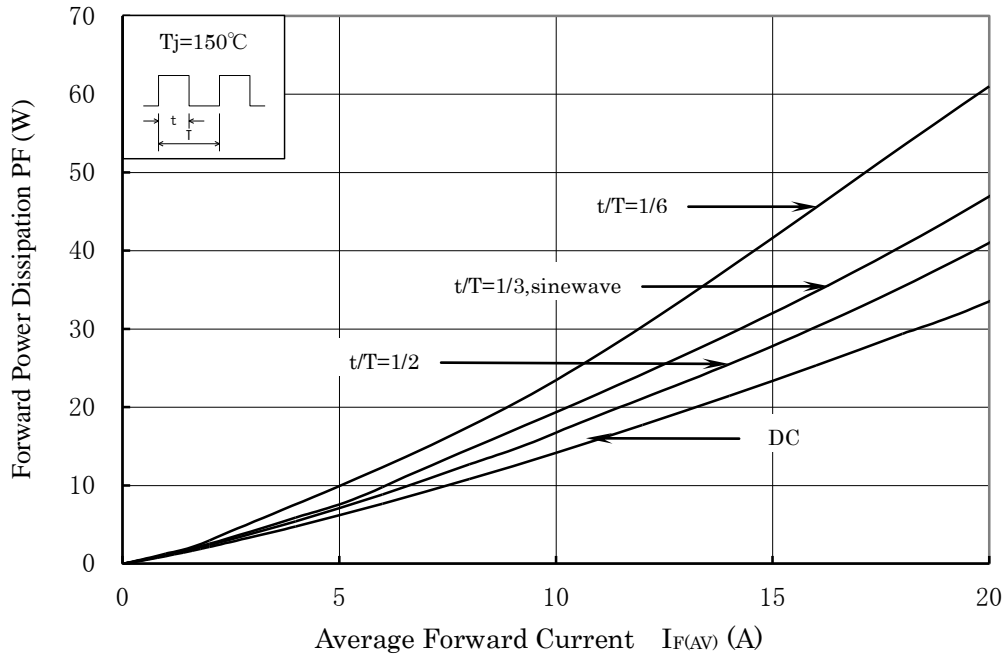
No.1,2,3&4 show characteristics per one chip.

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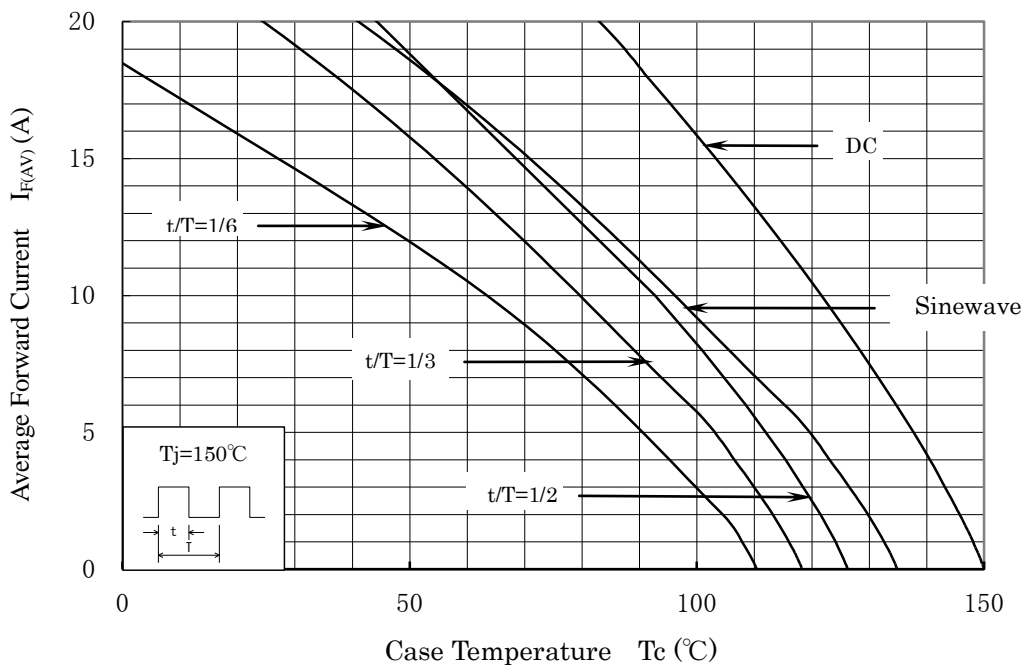
★ **Characteristics**

Average Forward Current — Forward Power Dissipation Characteristics



★ **Derating**

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



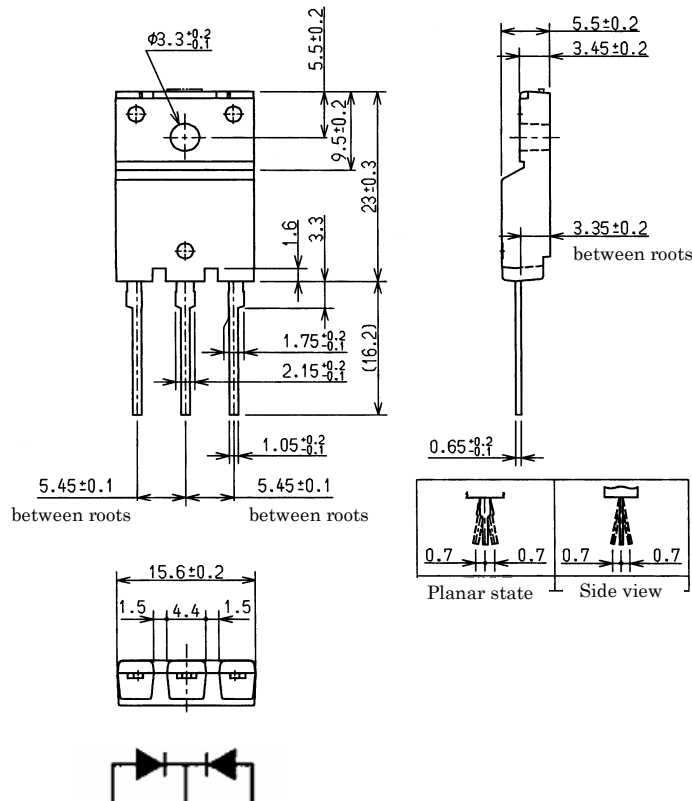
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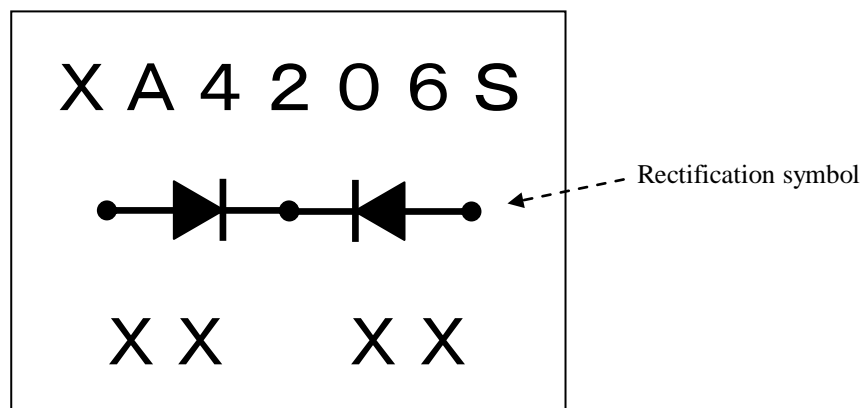
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★ Package information (mm)



★ Marking



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

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

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