

FMXJ-2164S

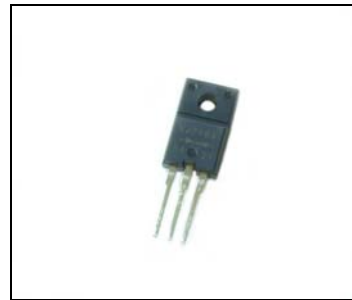
■General Description

FMXJ-2164S employs JBS structure*, i.e. the combined structure of SBD and FRD.

In addition, together with our proprietary lifetime control technology, Ultra fast recovery, Low loss and Low noise are realized.

* JBS (Junction Barrier Schottky) structure.

■Package---TO220F



■Applications

- PDP Panel driver circuit
- PFC Circuit (For continuous mode)
- The output rectifier for SMPS, UPS and DC-DC Converter.
- The flywheel diode for an inverter and a chopper.

■Features

- Realizes the fastest recovery characteristics (Ultrafast recovery) in the world, in all temperature ranges, and realizes the low loss and the low noise.
- Contributes to EMI-filter downsizing by soft Reverse Recovery.

■Key Specifications

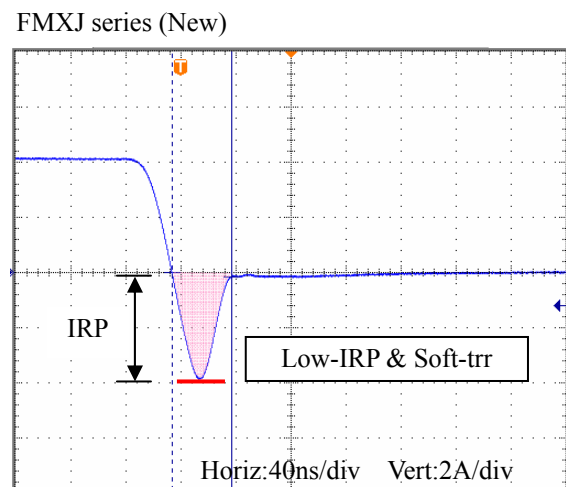
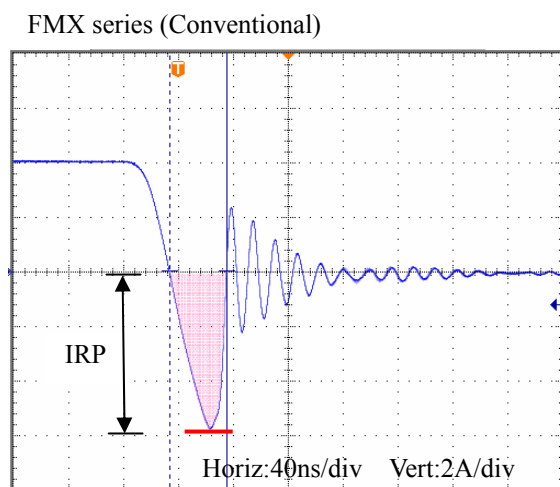
Absolute maximum ratings

Parameter	Symbol	Unit	Rating
Transient Peak Reverse Voltage	VRSM	V	400
Peak Reverse Voltage	VRM	V	400
Average Forward Current	IF(AV)	A	16
Peak Surge Forward Current	IFSM	A	100

Electrical characteristics

Parameter	Symbol	Unit	Value	Conditions
Forward Voltage Drop	VF	V	1.40 max.	IF=8.0A (one chip)
Reverse Leakage Current	IR	μA	100 max.	VR=VRM
Reverse Leakage Current Under High Temperature	H· IR	mA	20 max.	VR=VRM, Tj=150°C
Reverse Recovery Time	trr	ns	18 max.	IF=IRP=500mA 90% Recovery point, Tj=25°C

Actual circuit waveform (typical)



Conditions: FCC 160kHz Load 5A (DC12V)

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Die-Structure : Silicone-Planer-Diode by Diffusion

§1. Absolute maximum ratings & Electrical characteristics

1-1 Absolute maximum ratings

No.	Item	Symbol	Unit	Rating	Conditions
1	Transient Peak Reverse Voltage	VRSM	V	400	
2	Peak Reverse Voltage	VRM	V	400	
3	Average Forward Current	IF(AV)	A	16	Refer to Derating of 5
4	Peak Surge Forward Current	IFSM	A	100	10msec. Half sinewave, one shot
5	I ² t Limiting Value	I ² t	A ² S	50	1msec ≤ t ≤ 10msec
6	Junction Temperature	T _j	°C	-40 ~ +150	
7	Storage Temperature	T _{stg}	°C	-40 ~ +150	

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

1-2 Electrical characteristics (Ta=25°C ,unless otherwise specified)

No.	Item	Symbol	Unit	Rating	Conditions
1	Forward Voltage Drop	VF	V	1.40 max.	IF=8.0A
2	Reverse Leakage Current	IR	μA	100 max.	VR=VRM
3	Reverse Leakage Current Under High Temperature	H·IR	mA	20 max.	VR=VRM, T _j =150°C
4	Reverse Recovery Time	trr	ns	18 max.	IF=IRP=500mA 90% Recovery point, T _j =25°C
5	Thermal Resistance	R _{th(j-c)}	°C/W	4.0 max.	Between Junction and case

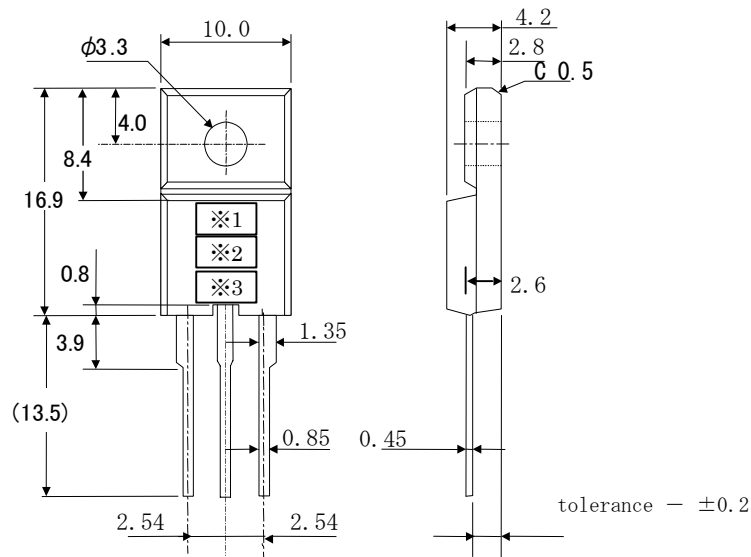
No.1,2&3 show characteristics per one chip.

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§ 2. Package information

2-1 Package type, physical dimensions and material



Dimensions in mm

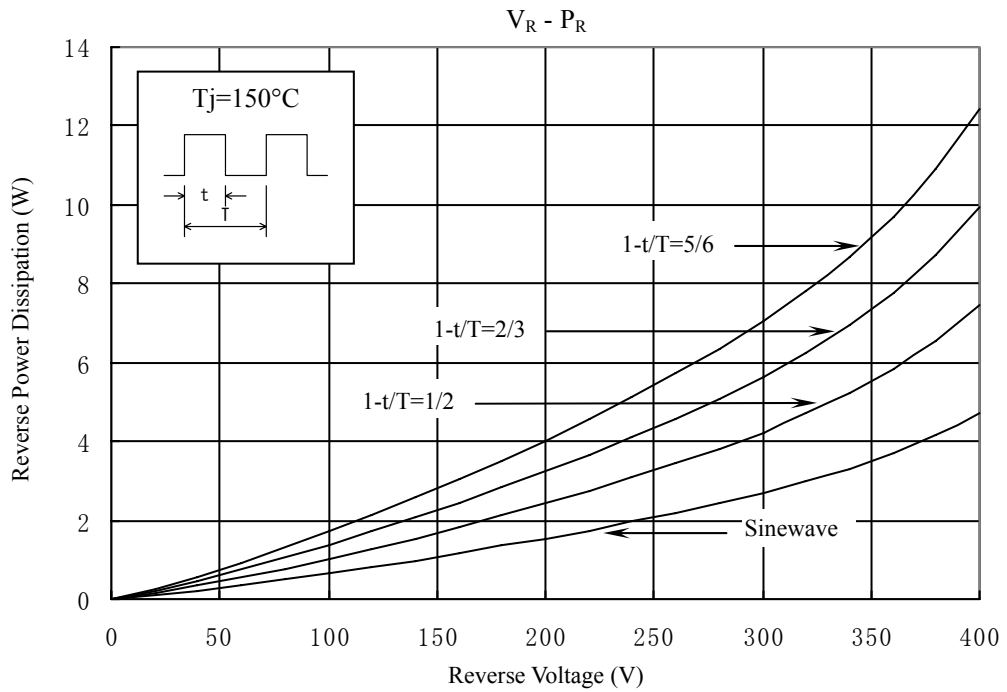
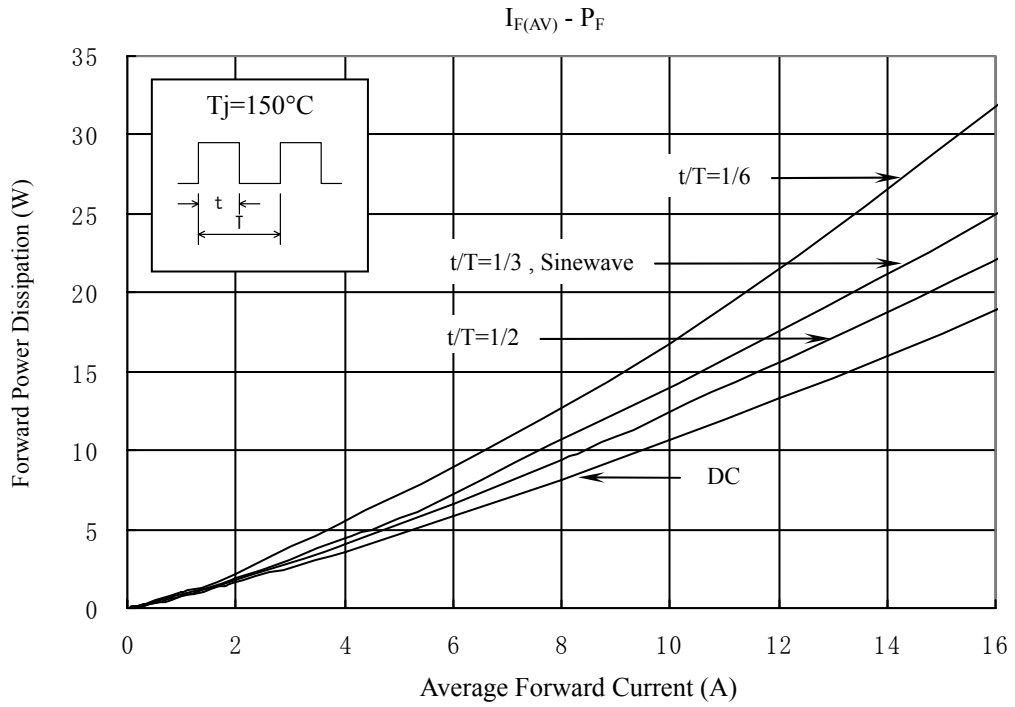
2-2 Marking

Type Name	Marking		
	Type Name	Polarity	Lot number
FMXJ-2164S	XJ2164		1st letter: Last digit of year 2nd letter: Month From 1 to 9 for Jan. to Sep., O for Oct., N for Nov., D for Dec. 3rd & 4th letter: Day ex. 5208 (February 8, 2005)

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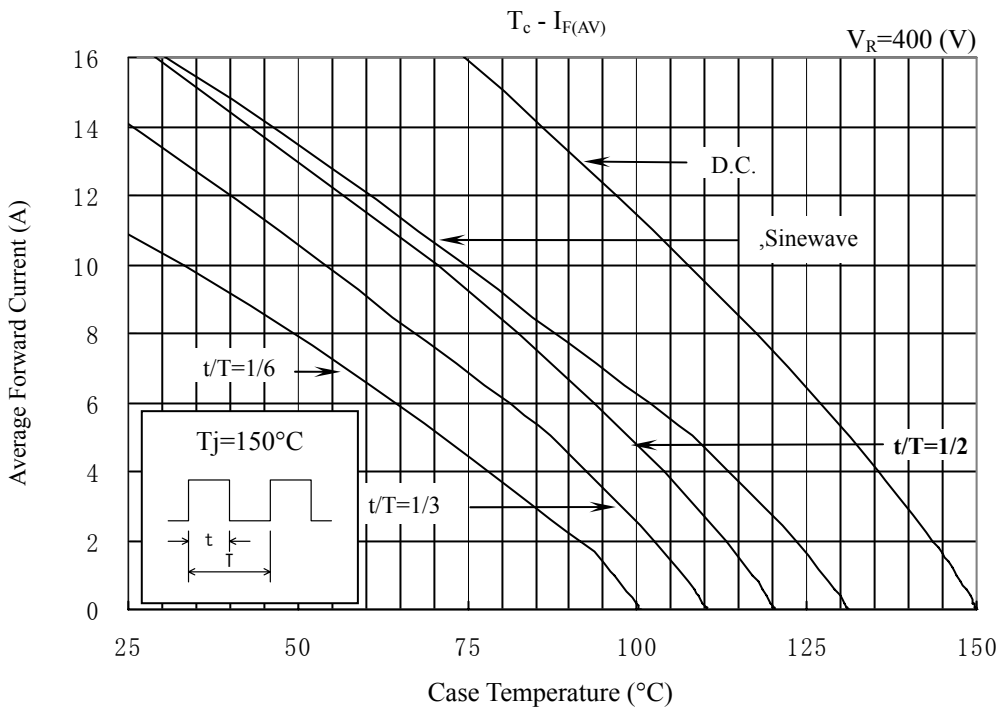
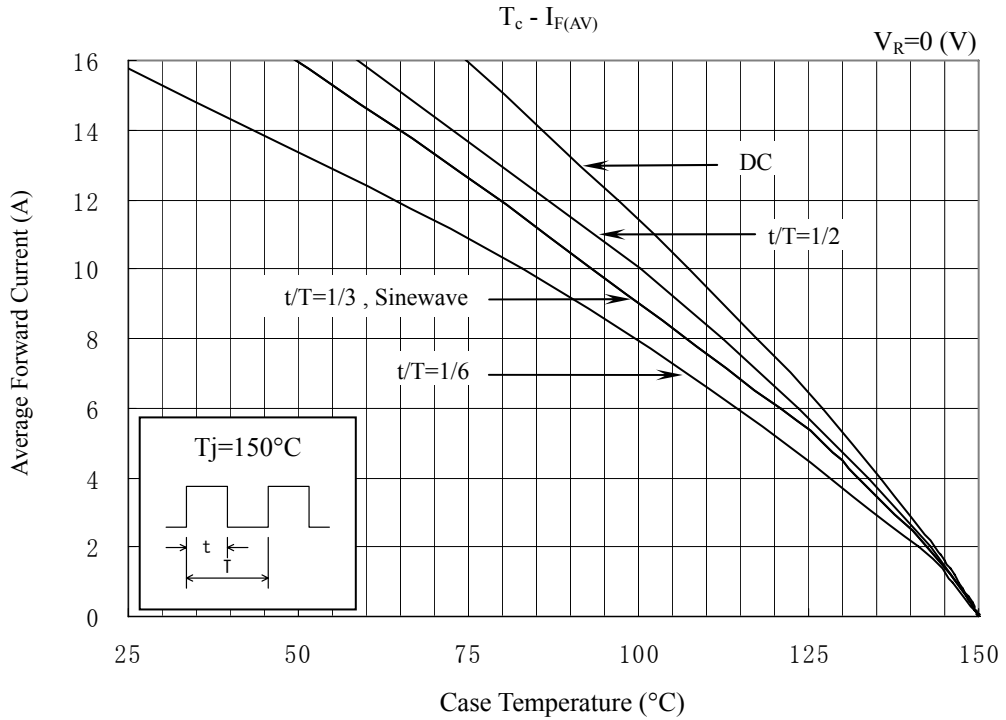
§ 3. Characteristics



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§ 4. Derating



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