

# **Data Sheet**

# **Description**

The FMEN-430A is a 100 V, 30 A Schottky diode that has the improved characteristics of V<sub>F</sub> and I<sub>R</sub>. These characteristics realize the improvement of power supply efficiency and the high frequency system.

#### **Features**

•	$V_{RSM} - \cdots -$	100 V
•	$I_{F(AV)}$	30 A
•	$V_F (I_F = 15 \text{ A})$ 0.81	V typ

- Bare Lead Frame: Pb-free (RoHS Compliant)
- Flammability: Equivalent to UL94V-0

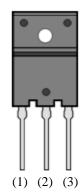
# **Applications**

High speed switching applications as follows:

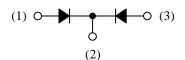
- DC-DC Converter
- Adapter

# **Package**

TO3PF-3L



Not to scale



- (1) Anode
- (2) Cathode
- (3) Anode

### FMEN-430A

# **Absolute Maximum Ratings**

Unless otherwise specified,  $T_A = 25$  °C

Parameter	Symbol	Conditions	Rating	Unit
Nonrepetitive Peak Reverse Voltage	V <sub>RSM</sub>		100	V
Repetitive Peak Reverse Voltage	$V_{RM}$		100	V
Average Forward Current	I <sub>F(AV)</sub>	See Figure 1 and Figure 2	30	A
Surge Forward Current	$I_{FSM}$	Half cycle sine wave, positive side, 10 ms, 1 shot	150	A
I <sup>2</sup> t Limiting Value	I <sup>2</sup> t	$1 \text{ ms} \le t \le 10 \text{ ms}$	112.5	$A^2s$
Junction Temperature	$T_{J}$		-40 to 150	°C
Storage Temperature	$T_{STG}$		-40 to 150	°C

# **Electrical Characteristics**

Unless otherwise specified,  $T_A = 25$  °C

Parameter	Symbol	Conditions	Min.	Тур.	Max.	Unit
Forward Voltage Drop <sup>(1)</sup>	$V_{\mathrm{F}}$	$I_F = 15 A$	_	0.81	0.85	V
Reverse Leakage Current <sup>(1)</sup>	$I_R$	$V_R = V_{RM}$			300	μΑ
Reverse Leakage Current under High Temperature <sup>(1)</sup>	$H \cdot I_R$	$V_R = V_{RM}, T_J = 150  ^{\circ}C$			150	mA
Thermal Resistance <sup>(2)</sup>	R <sub>th(J-C)</sub>		_	_	2.0	°C/W

# **Mechanical Characteristics**

Parameter	Conditions	Min.	Тур.	Max.	Unit
Heatsink Mounting Screw Torque		0.686	_	0.882	N·m
Package Weight		_	6.5	_	g

<sup>(1)</sup> The rating of one chip.

 $<sup>^{(2)}</sup>R_{th\,(J-C)}$  is thermal resistance between junction and the case. The case temperature is measured at the back side near the screw hole.

# **Rating and Characteristic Curves**

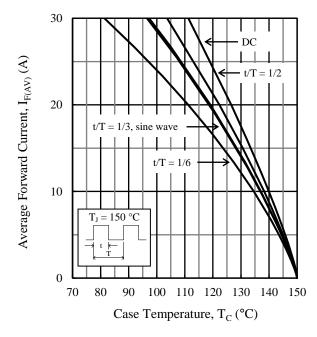


Figure 1. Typical Characteristics:  $I_{F(AV)}$  vs.  $T_{C}$   $(V_{R}=0\ V)$ 

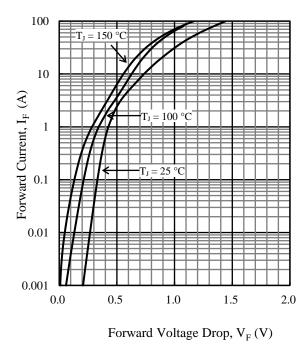


Figure 3. Typical Characteristics: I<sub>F</sub> vs. V<sub>F</sub>

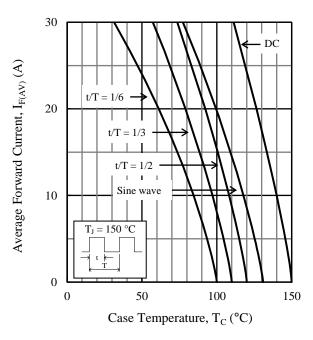


Figure 2. Typical Characteristics:  $I_{F(AV)}$  vs.  $T_{C}$  ( $V_{R} = 100 \text{ V}$ )

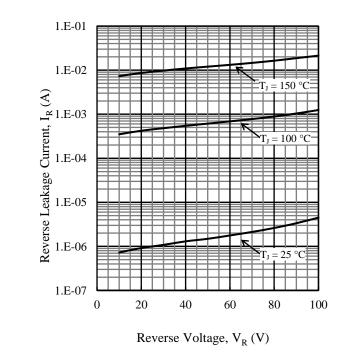
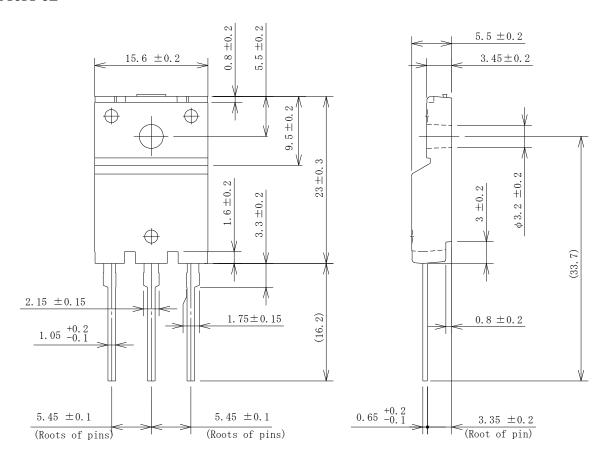
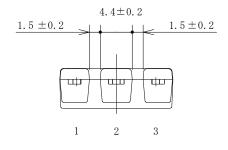


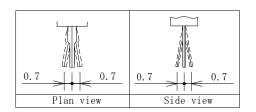
Figure 4. Typical Characteristics: I<sub>R</sub> vs. V<sub>R</sub>

# **Physical Dimensions**

### • TO3PF-3L







### **NOTES:**

- Dimensions in millimeters
- Maximum gate burr height is 0.3 mm.
- Bare lead frame: Pb-free (RoHS compliant)
- When soldering the products, it is required to minimize the working time within the following limits:

Flow: 260 °C / 10 s, 1 time

Soldering Iron:  $350 \, ^{\circ}\text{C} \, / \, 3.5 \, \text{s}, \, 1 \, \text{time}$ 

Soldering should be at a distance of at least 1.5 mm from the body of the product.

# **Marking Diagram**

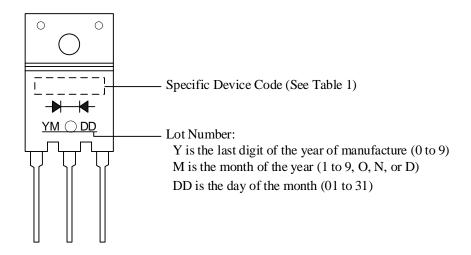


Table 1. Specific Device Code

Specific Device Code	Part Number
EN430A	FMEN-430A

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