

**$V_{RM} = 80\text{ V}$ ,  $I_{F(AV)} = 30\text{ A}$**   
**Schottky Diode**  
**FMEN-2308**

**Description**

The FMEN-2308 is an 80 V, 30 A Schottky diode with allowing improvements in  $V_F$  and  $I_R$  characteristics.

These characteristic features contribute to improving power supply efficiency and to enabling high-frequency systems.

**Features**

- $V_{RM}$ -----80 V
- $I_{F(AV)}$ -----30 A
- $V_F$  ( $I_F = 15\text{ A}$ ) -----0.73 V typ.
- Bare Lead Frame: Pb-free (RoHS Compliant)

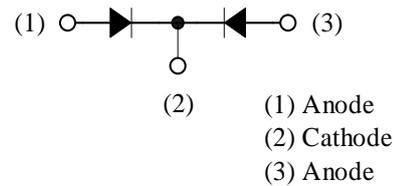
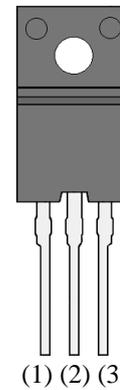
**Applications**

The high speed switching applications as follows:

- DC-DC Converter
- Adapter

**Package**

TO220F-3L



Not to scale

**Absolute Maximum Ratings**

Unless otherwise specified,  $T_A = 25\text{ }^\circ\text{C}$ .

Parameter	Symbol	Rating	Unit	Conditions
Peak Repetitive Reverse Voltage <sup>(1)</sup>	$V_{RSM}$	85	V	$PT \leq 500\text{ ns}$ , duty cycle $\leq 2.5\%$ , see Figure 1
Repetitive Reverse Voltage <sup>(1)</sup>	$V_{RM}$	80	V	
Average Forward Current	$I_{F(AV)}$	30	A	See Figure 2 and Figure 3
Surge Forward Current <sup>(1)</sup>	$I_{FSM}$	150	A	Half cycle sine wave, positive side, 10 ms, 1 shot
$I^2t$ Limiting Value <sup>(1)</sup>	$I^2t$	112.5	$A^2s$	$1\text{ ms} \leq t \leq 10\text{ ms}$
Junction Temperature	$T_J$	-40 to 150	$^\circ\text{C}$	
Storage Temperature	$T_{STG}$	-40 to 150	$^\circ\text{C}$	

**Electrical Characteristics**

Unless otherwise specified,  $T_A = 25\text{ }^\circ\text{C}$ .

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage Drop <sup>(1)</sup>	$V_F$	$I_F = 15\text{ A}$	—	0.73	0.765	V
Reverse Leakage Current <sup>(1)</sup>	$I_R$	$V_R = V_{RM}$	—	—	300	$\mu\text{A}$
Reverse Leakage Current Under High Temperature <sup>(1)</sup>	$H \cdot I_R$	$V_R = V_{RM}, T_J = 150\text{ }^\circ\text{C}$	—	—	150	mA
Thermal Resistance <sup>(2)</sup>	$R_{th(J-C)}$		—	—	4.0	$^\circ\text{C/W}$

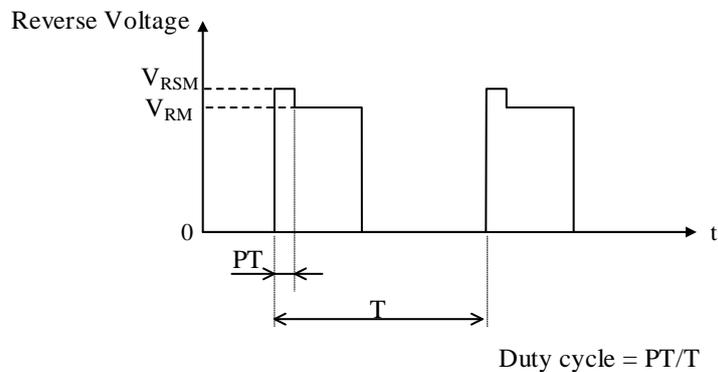


Figure 1. Definition of PT and Duty Cycle

<sup>(1)</sup> Specifies a value per chip; the FMEN-2308 consists of two chips.

<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

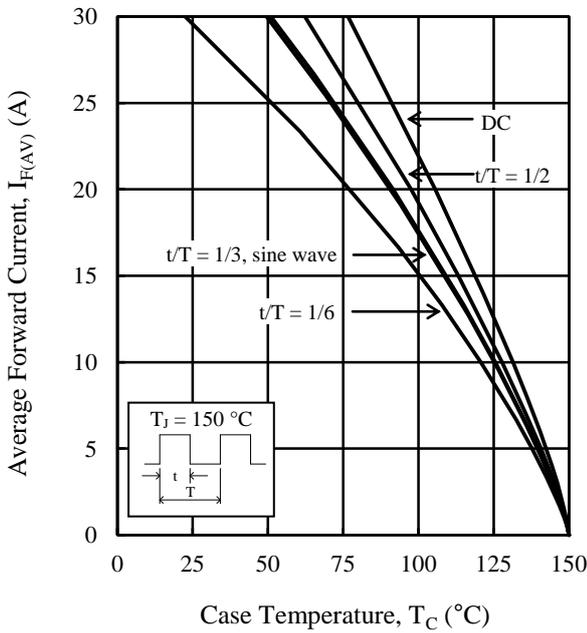


Figure 2.  $I_{F(AV)}$  vs.  $T_C$  Typical Characteristics ( $V_R = 0\text{ V}$ )

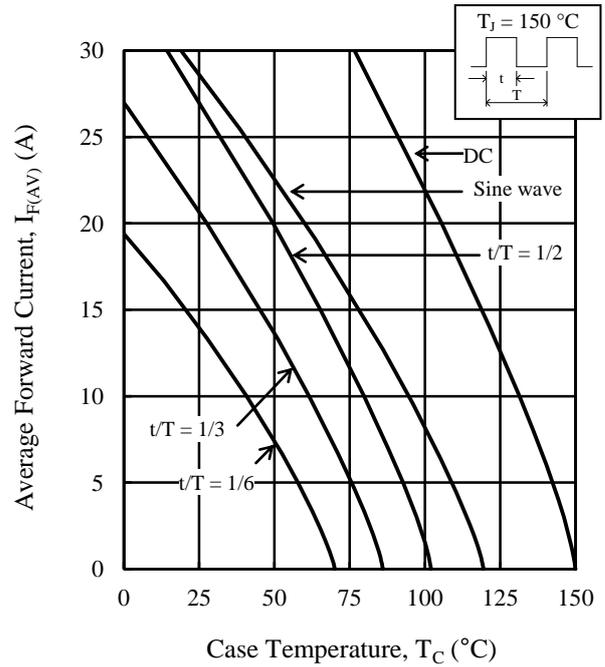


Figure 3.  $I_{F(AV)}$  vs.  $T_C$  Typical Characteristics ( $V_R = 80\text{ V}$ )

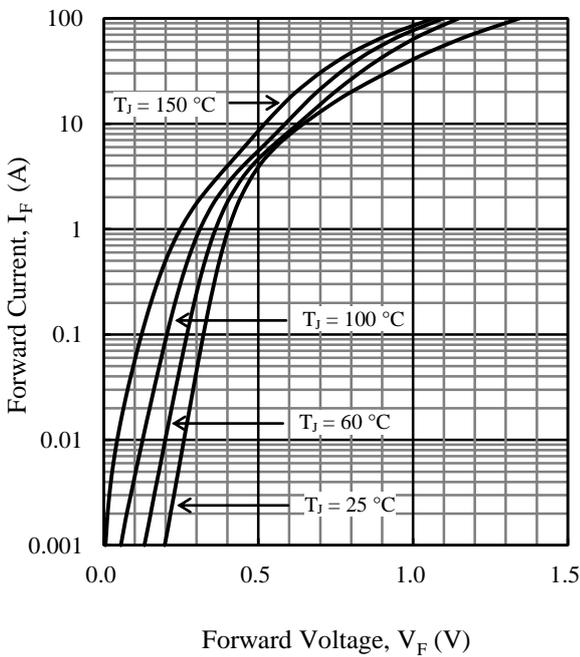


Figure 4.  $V_F$  vs.  $I_F$  Typical Characteristics

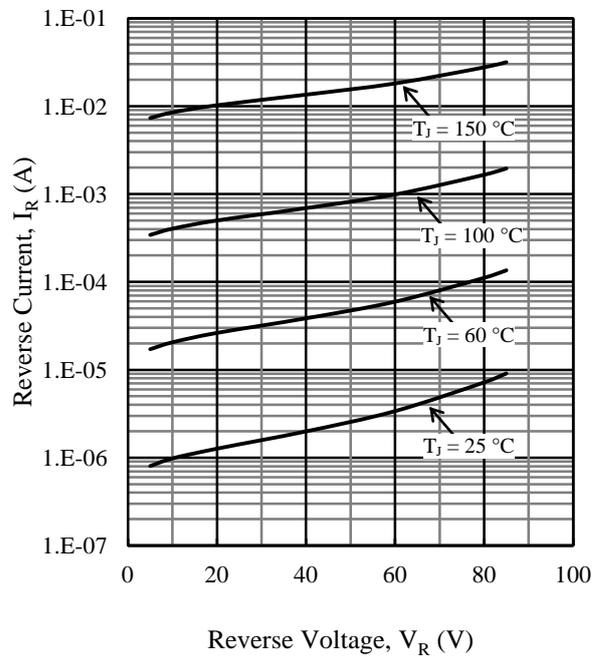
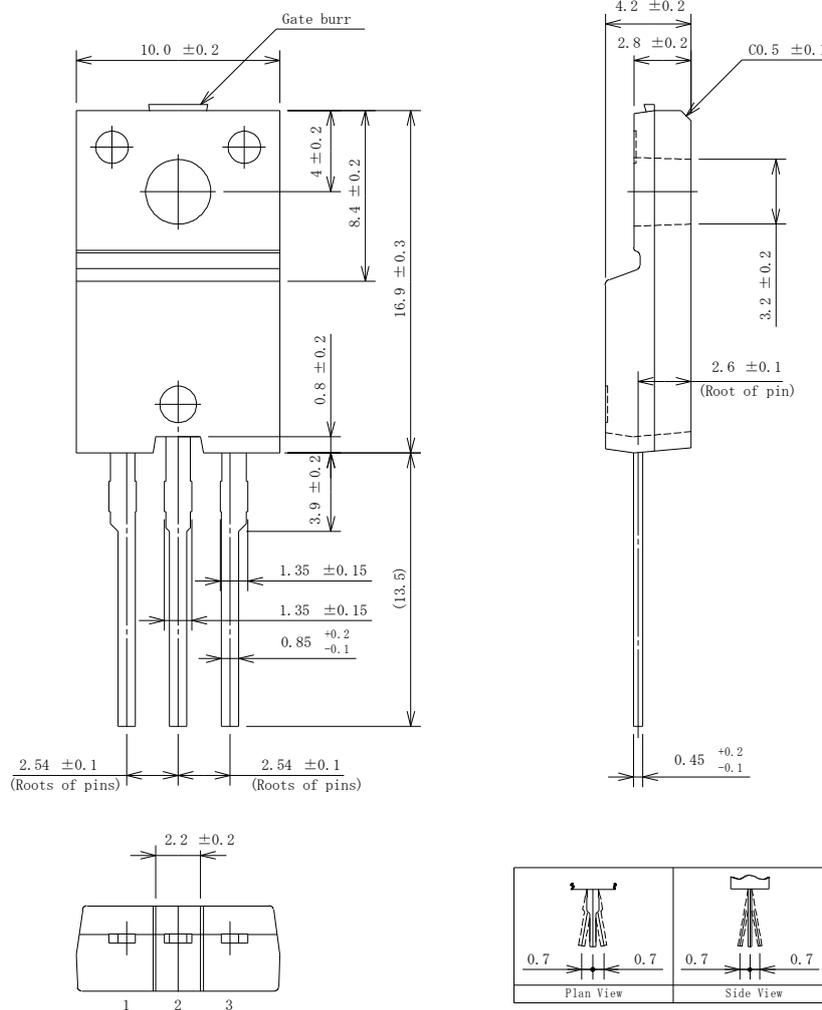


Figure 5.  $V_R$  vs.  $I_R$  Typical Characteristics

Physical Dimensions

• TO220F-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:  $260 \pm 5$  °C /  $10 \pm 1$  s, 2 times  
 Soldering Iron:  $380 \pm 10$  °C /  $3.5 \pm 0.5$  s, 1 time (Soldering should be at a distance of at least 1.5 mm from the body of the product.)
- Recommended screw torque for TO220F: 0.490 N·m to 0.686 N·m (5 kgf·cm to 7 kgf·cm)

**Marking Diagram**

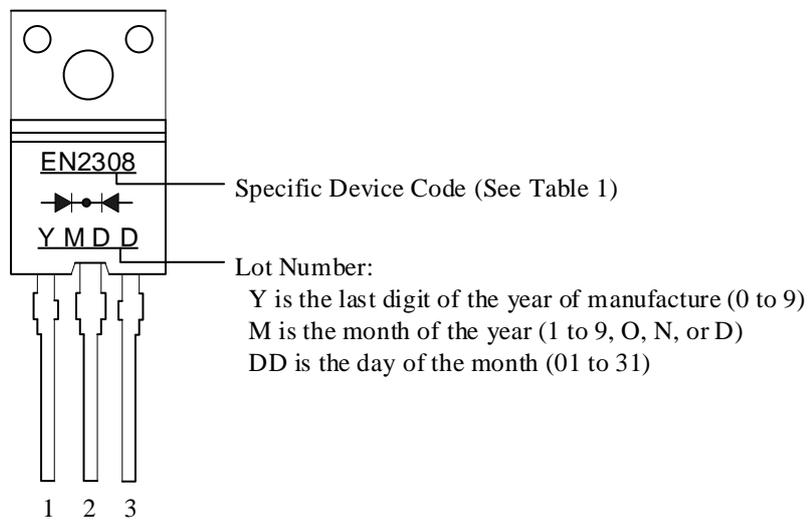


Table 1. Specific Device Code

Specific Device Code	Part Number
EN2308	FMEN-2308

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