

Absolute Maximum RatingsUnless otherwise specified, $T_A = 25\text{ }^{\circ}\text{C}$.

Parameter	Symbol	Conditions	Rating	Unit
Nonrepetitive Peak Reverse Voltage ⁽¹⁾	V_{RSM}		80	V
Repetitive Peak Reverse Voltage ⁽¹⁾	V_{RM}		80	V
Average Forward Current	$I_{F(AV)}$	See Figure 1 and Figure 2	20	A
Surge Forward Current ⁽¹⁾	I_{FSM}	Half cycle sine wave, positive side, 10 ms, 1 shot	120	A
I^2t Limiting Value ⁽¹⁾	I^2t	$1\text{ ms} \leq t \leq 10\text{ ms}$	72	A^2s
Junction Temperature	T_J		-40 to 150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}		-40 to 150	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage Drop ⁽¹⁾	V_F	$I_F = 10\text{ A}$	—	0.73	0.76	V
Reverse Leakage Current ⁽¹⁾	I_R	$V_R = V_{RM}$	—	—	200	μA
Reverse Leakage Current under High Temperature ⁽¹⁾	$H \cdot I_R$	$V_R = V_{RM}$, $T_J = 150\text{ }^{\circ}\text{C}$	—	—	100	mA
Thermal Resistance ⁽²⁾	$R_{th(J-C)}$		—	—	4.0	$^{\circ}\text{C/W}$

Mechanical Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit
Heatsink Mounting Screw Torque		0.490	—	0.686	$\text{N}\cdot\text{m}$

⁽¹⁾ Specifies a value per chip; the FMEN-2208 consists of two chips.⁽²⁾ $R_{th(J-C)}$ 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

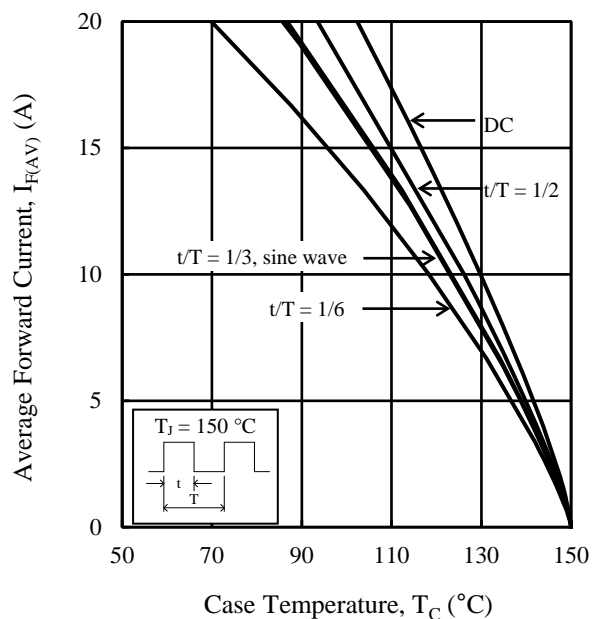


Figure 1. Typical Characteristics: $I_{F(AV)}$ vs. T_C
($V_R = 0$ V)

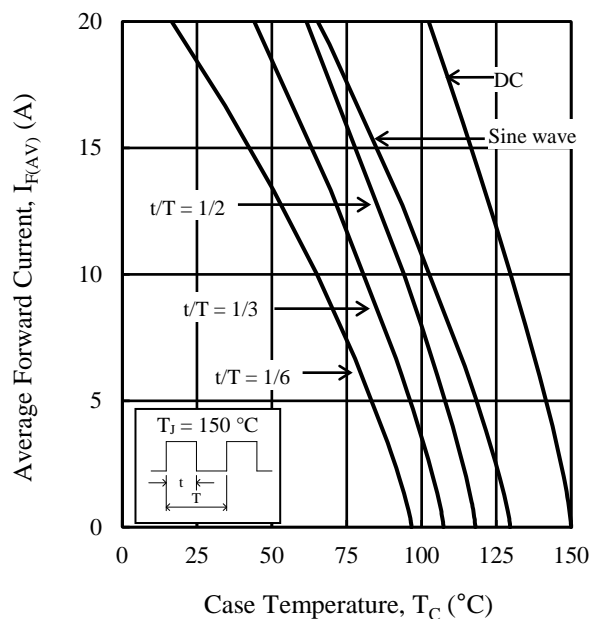


Figure 2. Typical Characteristics: $I_{F(AV)}$ vs. T_C
($V_R = 80$ V)

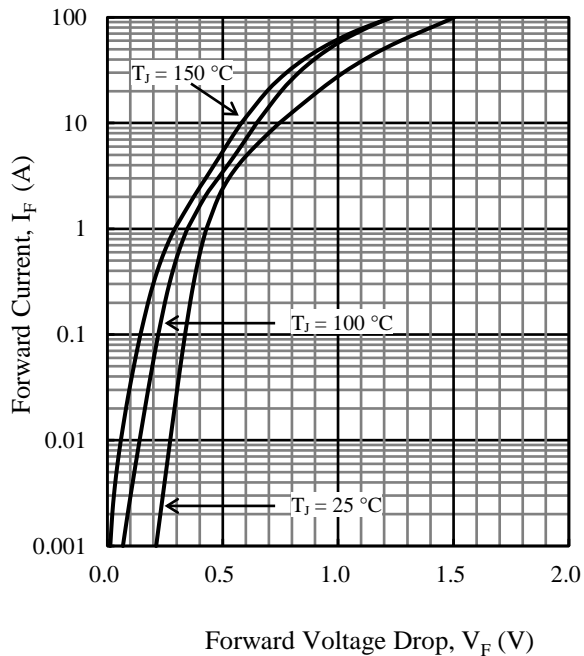


Figure 3. Typical Characteristics: I_F vs. V_F

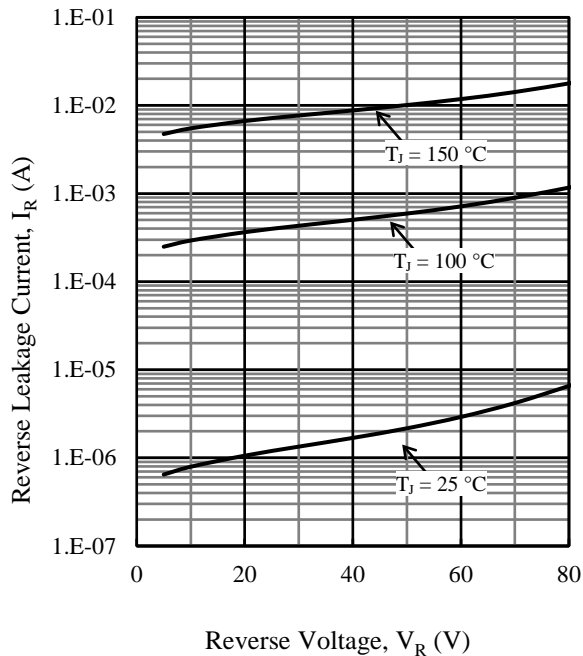
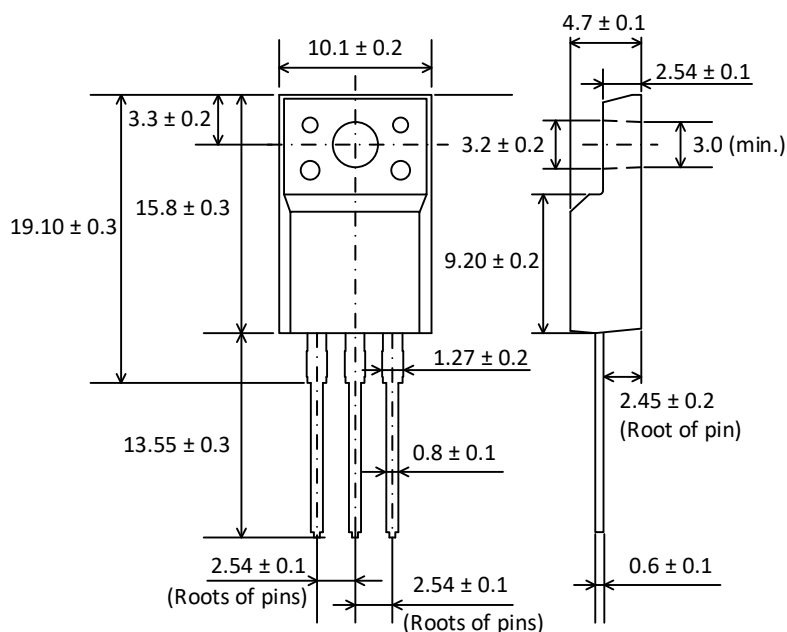


Figure 4. Typical Characteristics: I_R vs. V_R

Physical Dimensions

• TO220F-3L



NOTES:

- Dimensions in millimeters
- All the dimensions exclude mold flashes.
- 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 ± 5 °C / 10 ± 1 s, 2 times
 - Soldering Iron: 380 ± 10 °C / 3.5 ± 0.5 s, 1 time
 - Soldering should be at a distance of at least 1.5 mm from the body of the product.

Marking Diagram

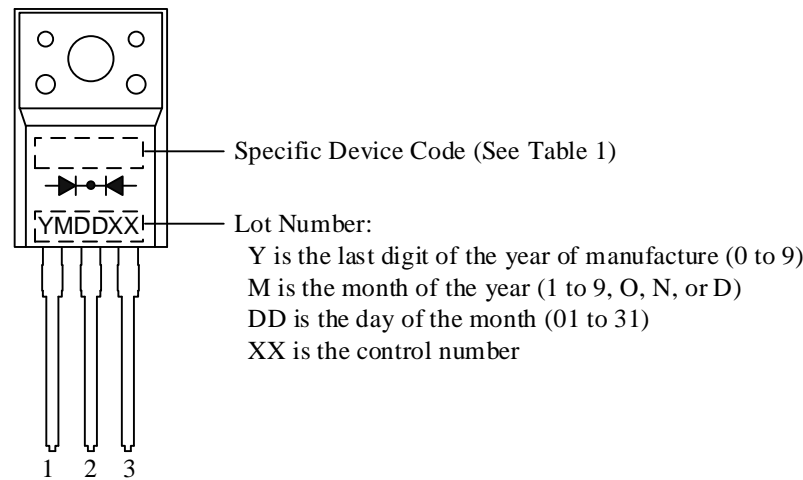


Table 1. Specific Device Code

Specific Device Code	Part Number
EN2208	FMEN-2208

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