V_{RSM} = 100 V, $I_{F(AV)}$ = 15 A
Trench Schottky Diode

FMET-21510

Preliminary

Features

FMET-21510 is 100 V / 15 A Schottky Diode of the Trench structure and has the improved characteristics of V_F and I_R. These characteristics realize the improving of power supply efficiency, and the high frequency system.

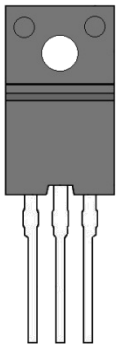
- V_{RM}---------- 100 V
- $I_{F(AV)}$----------15A
- V_F (125 °C, I_F = 3.5 A)---------- 0.57 V typ.

Applications

The high speed switching applications as follows:
- DC-DC Converter
- Adapter

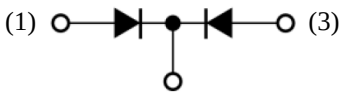
Package

TO220F-3L



(1)(2)(3)

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



Not to scale

Absolute Maximum Ratings

- Unless otherwise specified, T_j is 25 °C

Parameter	Symbol	Rating	Unit	Notes
Peak Repetitive Reverse Voltage	V_{RSM}	100	V	
Repetitive Reverse Voltage	V_{RM}	100	V	
Average Forward Current	$I_{F(AV)}$	15	A	
Surge Forward Current	I_{FSM}	100	A	10 ms Half sinewave, one shot
Junction Temperature	T_j	−40 to 150	°C	
Storage Temperature	T_{stg}	−40 to 150	°C	

Electrical Characteristics

- Unless otherwise specified, T_j is 25 °C

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward Voltage Drop	V_F	I_F = 3.5 A	−	0.65	−	V
		I_F = 7.5 A	−	0.81	0.85	V
Forward Voltage Drop Under High Temperature	H·V_F	T_j = 125 °C, I_F = 3.5 A	−	0.57	−	V
		T_j = 125 °C, I_F = 7.5 A	−	0.67	−	V
Reverse Leakage Current	I_R	V_R = V_{RM}	−	0.3	50	μA
Reverse Leakage Current Under High Temperature	H·I_R	V_R = V_{RM}, T_j = 150 °C	−	3.0	25	mA
Thermal Resistance*	$R_{th(j-c)}$		−	−	4.0	°C/W

* $R_{th(j-c)}$ is thermal resistance between junction and case. Case temperature (T_C) is measured at the under of the screw hole of case.

Performance Curves

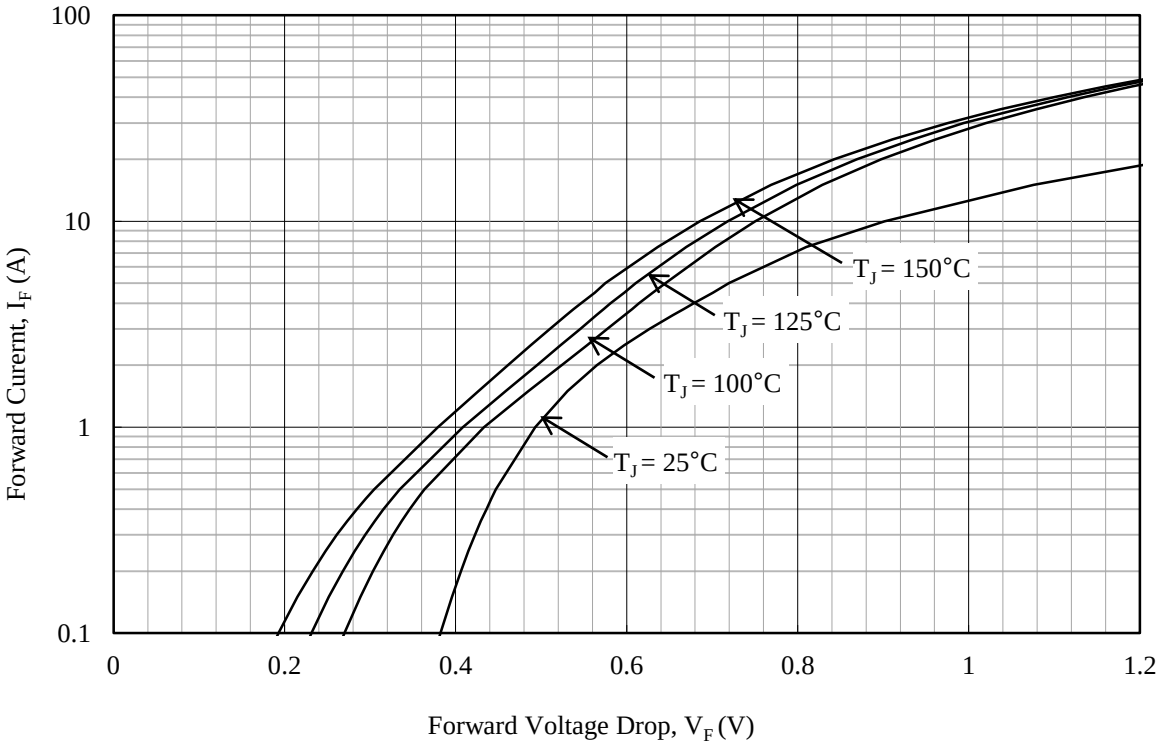


Figure 1 Typical Forward Characteristics

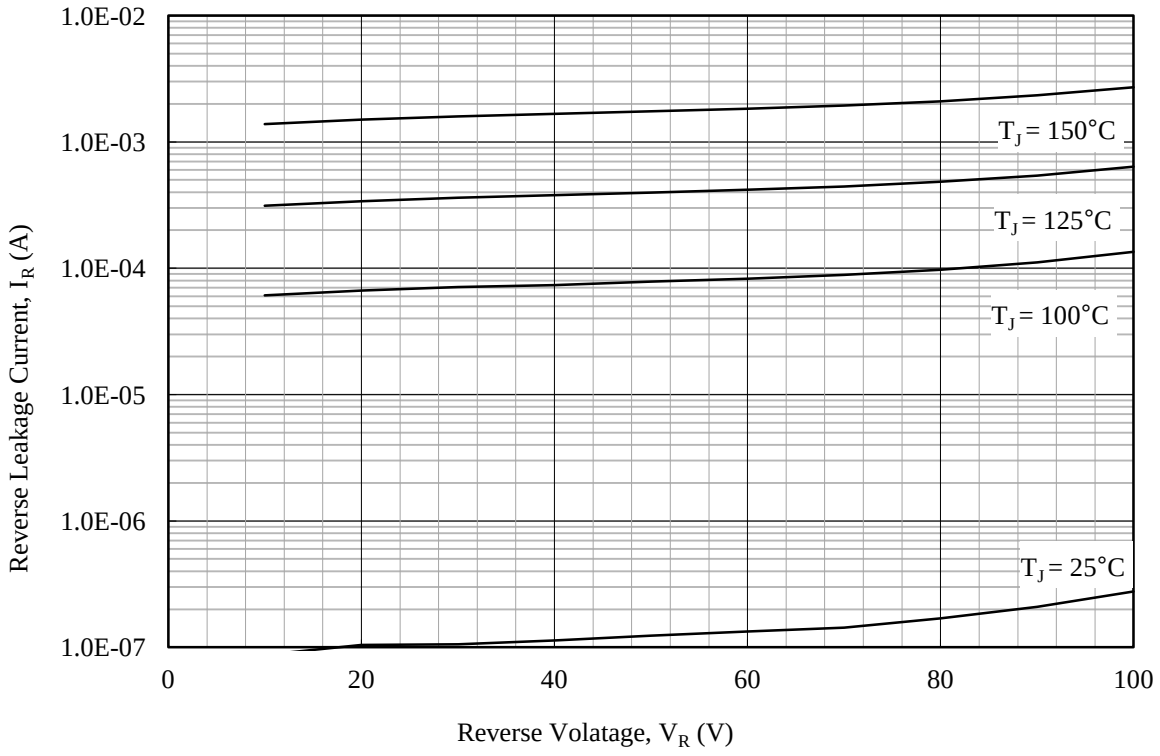


Figure 2 Typical Reverse Leakage Current Characteristics

Power Dissipation Curves

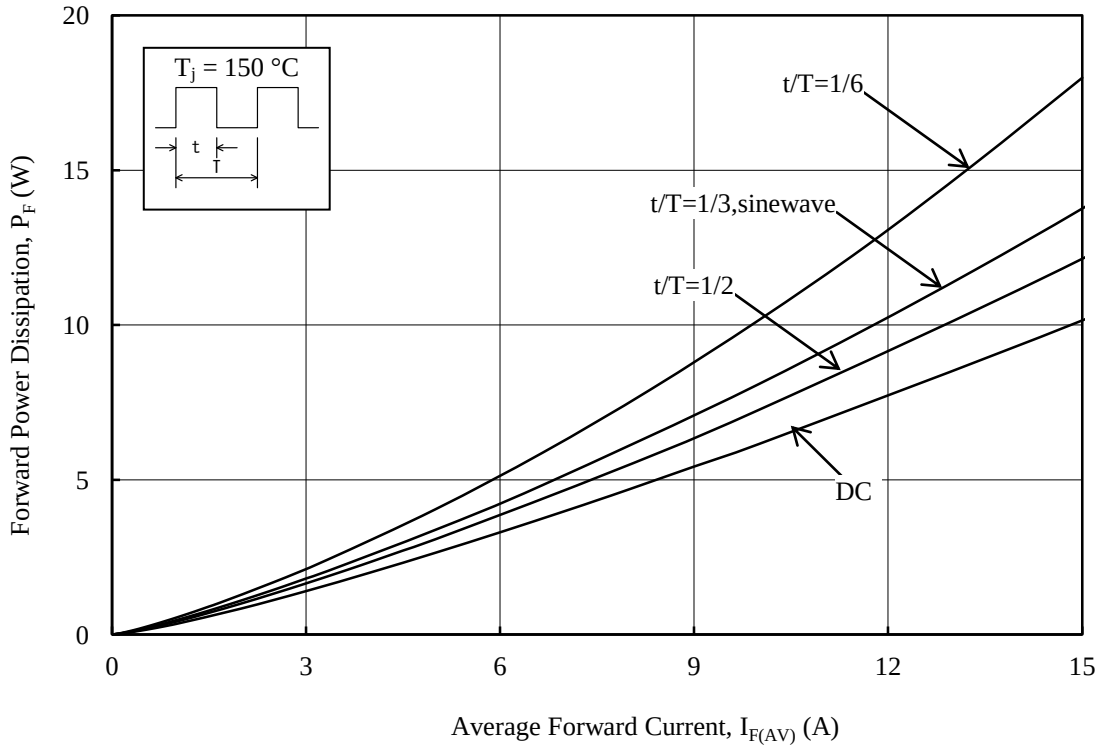


Figure 3 Forward Power Dissipation, P_F vs. Average Forward Current, $I_{F(AV)}$

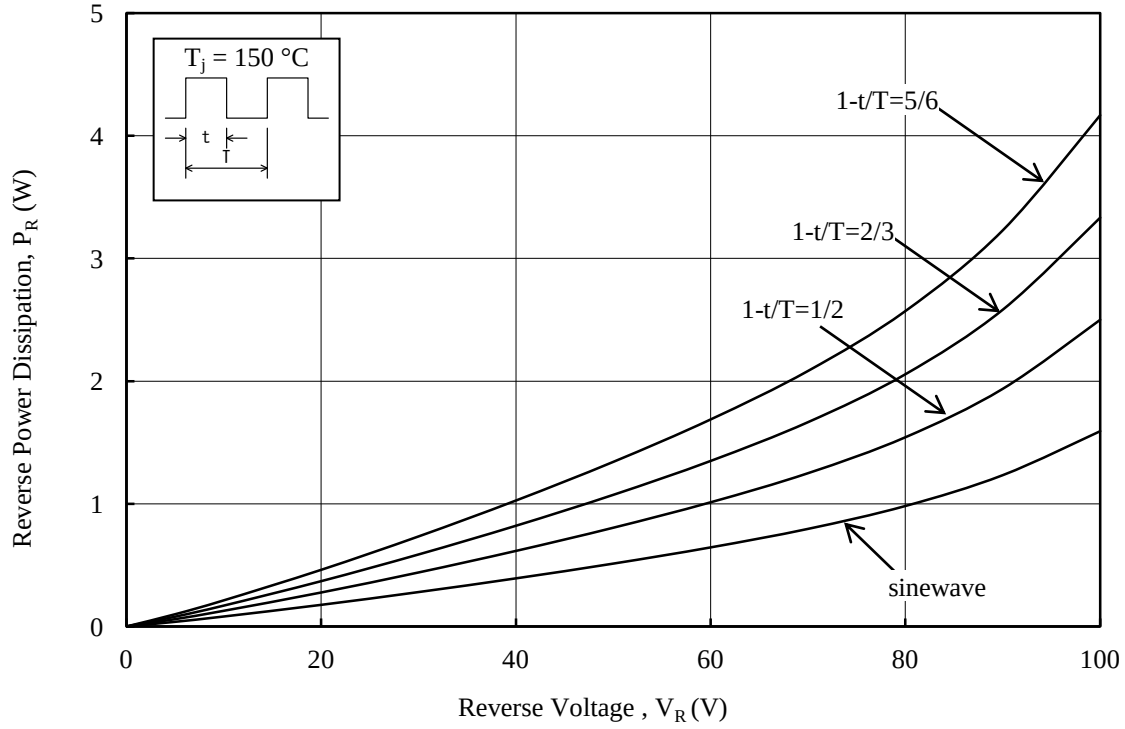


Figure 4 Reverse Power Dissipation, P_R vs. Reverse Voltage , V_R

Derating Curves

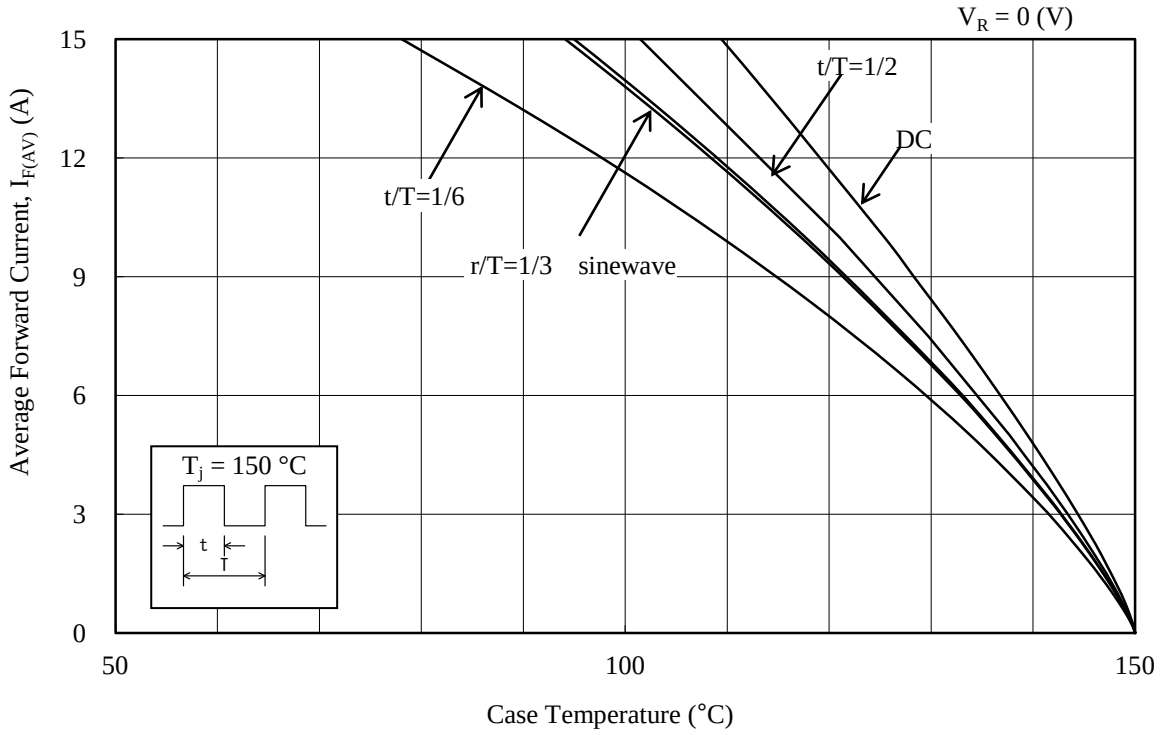


Figure 5 Average Rectified Forward Current, $I_{F(AV)}$ vs. Case Temperature

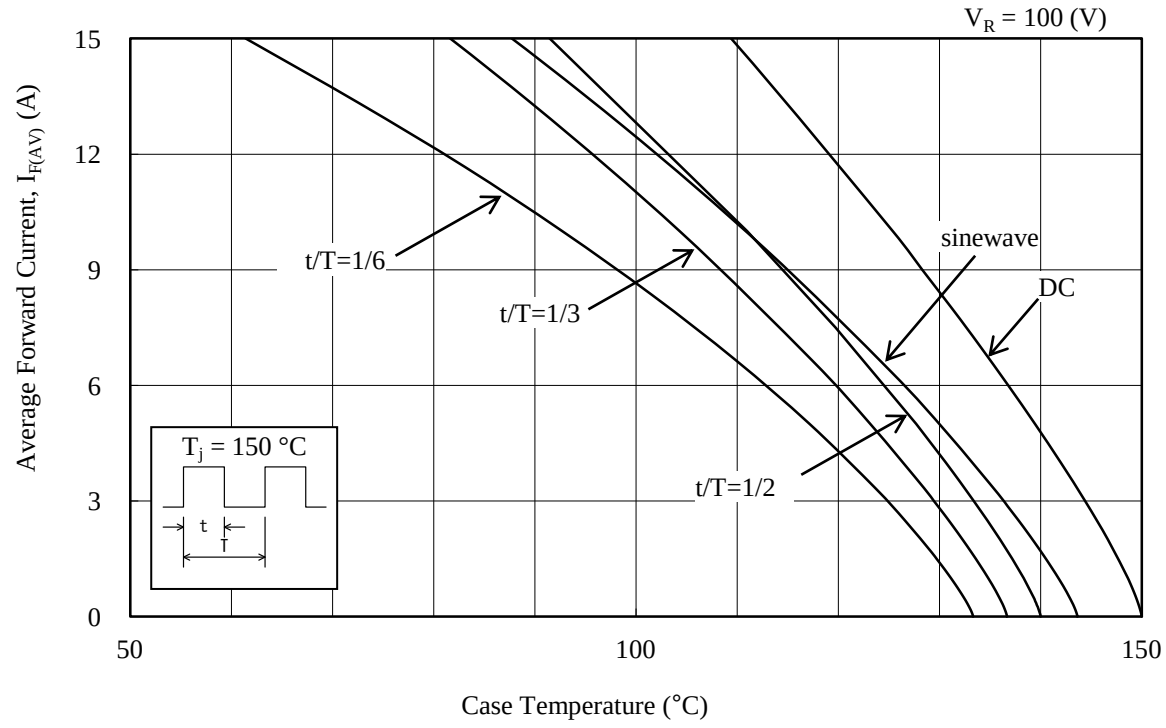
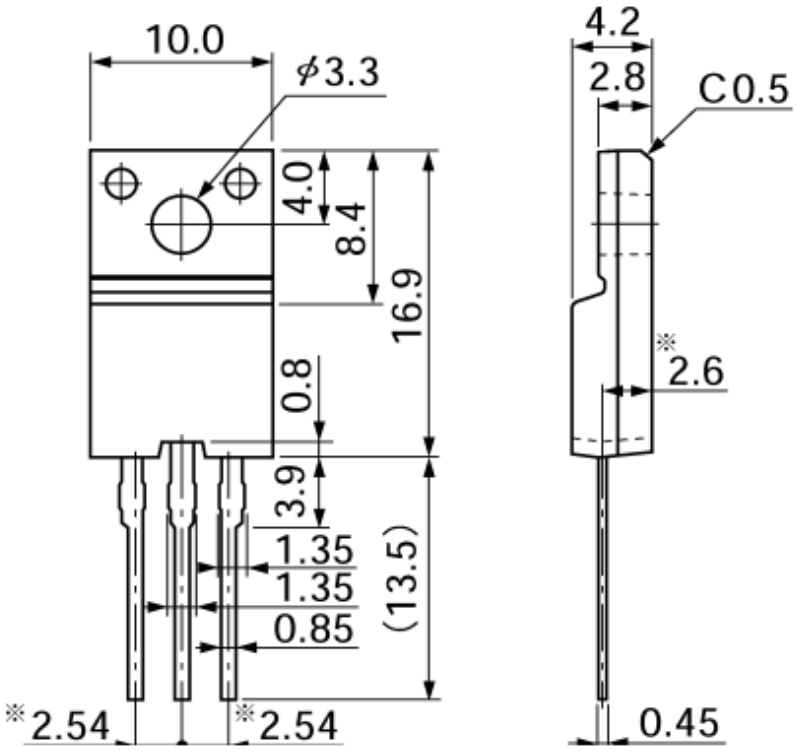


Figure 6 Average Rectified Forward Current, $I_{F(AV)}$ vs. Case Temperature

Package Outline

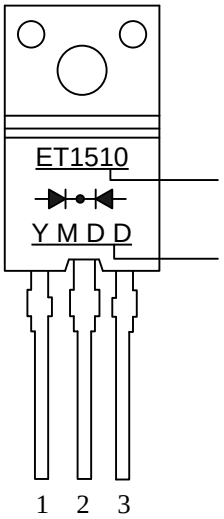
TO220F-3L



NOTES:

1) Dimension is in millimeters.
2) Pin treatment Pb-free. Device composition compliant with the RoHS directive.

Marking Diagram



Part Number

Lot Number:
Y is the last digit of the year of manufacture (0 to 9)
M is the month of the year (1 to 9, O, N or D)
DD is the day of the month (01 to 31)

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