V_{RSM} = 650 V, $I_{F(AV)}$ = 10 A
SiC Schottky Diode

FMCA-11065

Data Sheet

Description

The FMCA-11065 is a 650 V, 10 A, SiC Schottky diode that lowers reverse leakage current at high temperatures and reduces switching loss with its high-speed switching characteristics.

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

Features

- RoHS Compliant
- V_{RSM} ---------- 650 V
- $I_{F(AV)}$ ---------- 10 A
- V_F at 25 °C ---------- 1.5 V typ.

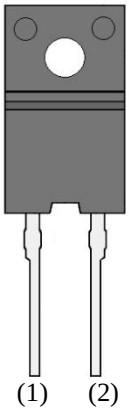
Applications

The high speed switching applications as follows:

- PFC Circuit
- Motor Drive Circuit
- Inverter Circuit

Package

TO220F-2L



(1) Cathode
(2) Anode

Not to scale

Absolute Maximum Ratings

Unless otherwise specified, T_A = 25 °C.

Parameter	Symbol	Rating	Unit	Conditions
Peak Repetitive Reverse Voltage	V_{RSM}	650	V	
Repetitive Reverse Voltage	V_{RM}	600	V	
Average Forward Current	$I_{F(AV)}$	10	A	
Surge Forward Current	I_{FSM}	40	A	Half cycle sine wave, positive side, 10 ms, 1 shot
Junction Temperature	T_J	−40 to 175	°C	
Storage Temperature	T_{STG}	−40 to 175	°C	

Electrical Characteristics

Unless otherwise specified, T_A = 25 °C.

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage Drop	V_F	T_A = 25 °C, I_F = 10 A	—	1.5	1.75	V
		T_A = 100 °C, I_F = 10 A	—	1.6	—	V
Reverse Leakage Current	I_R	$V_R = V_{RM}$	—	15	200	μA
Reverse Leakage Current Under High Temperature	$H \cdot I_R$	$V_R = V_{RM}$, T_J = 150 °C	—	70	500	μA
Thermal Resistance[(1)]	$R_{th(J-L)}$		—	—	2.5	°C/W

[(1)] $R_{th\ (J-L)}$ is thermal resistance between junction and lead.

Rating and Characteristic Curves

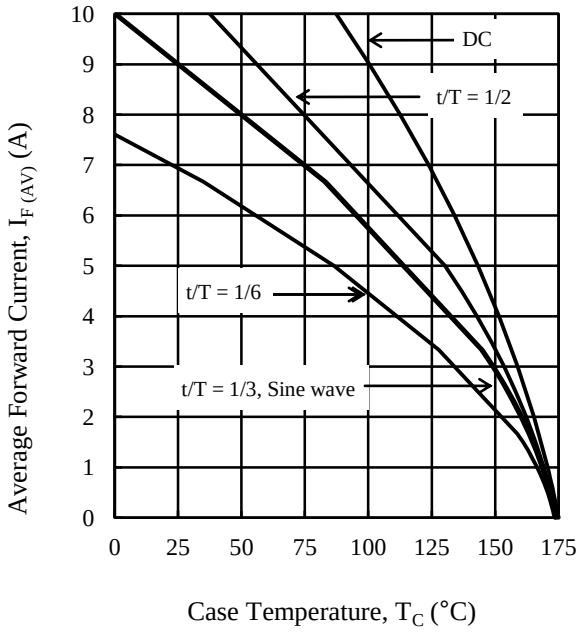


Figure 1. T_C vs. $I_{F(AV)}$ Typical Characteristics

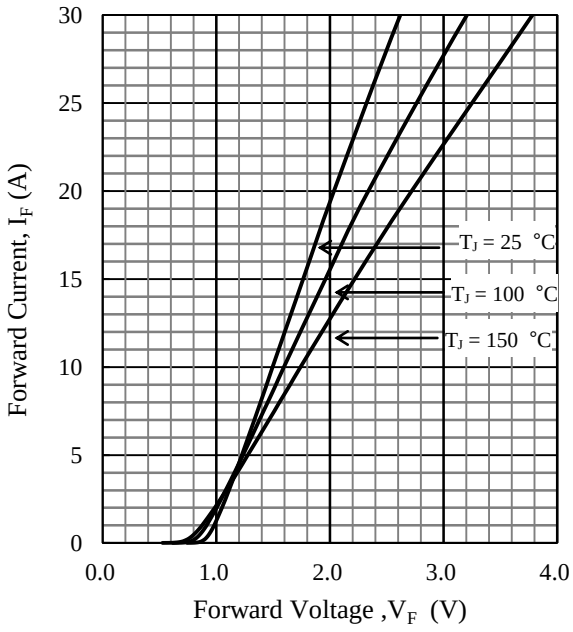


Figure 2. V_F vs. I_F Typical Characteristics

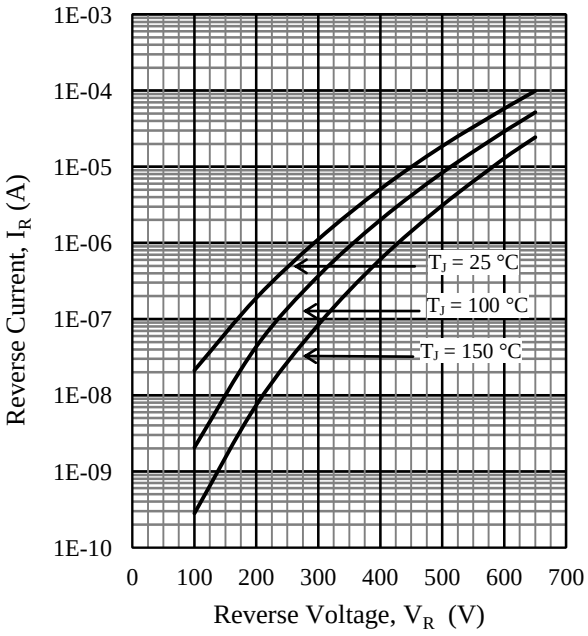
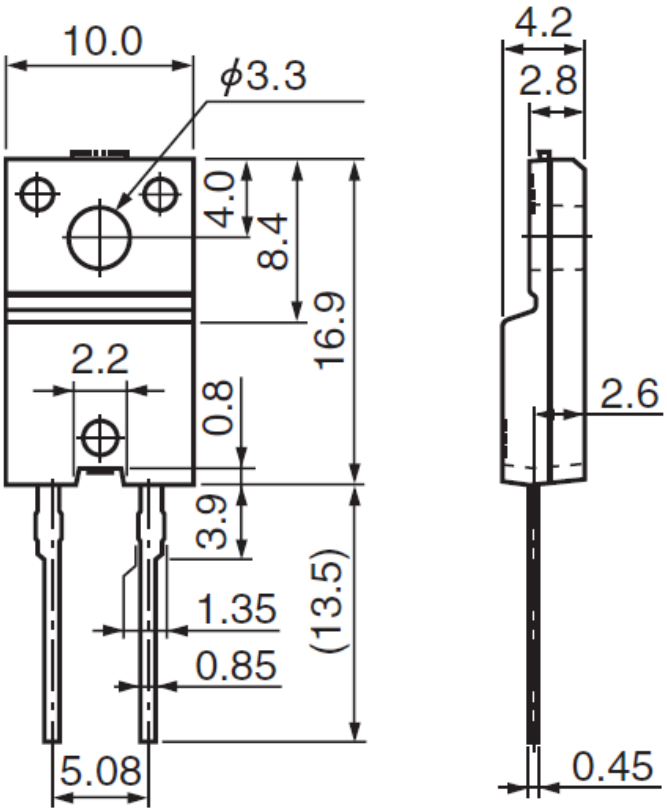


Figure 3. V_R vs. I_R Typical Characteristics

Physical Dimensions

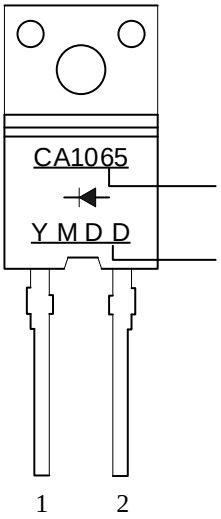
● **TO220F-2L**



NOTES:

- Dimensions in millimeters
- Bare lead frame: Pb-free (RoHS compliant)
- When soldering the products, be sure 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 products.)
- The recommended screw torque for TO220: 0.490 N·m to 0.686 N·m (5 kgf·cm to 7 kgf·cm)

Marking Diagram



Specific Device Code (see Table 1)

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)

Table 1. Specific Device Code

Specific Device Code	Part Number
CA1065	FMCA-11065

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