

**$V_{RSM} = 650\text{ V}$ ,  $I_{F(AV)} = 10\text{ A}$**   
**SiC Schottky Diode**  
**FMCA-11065**

**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.

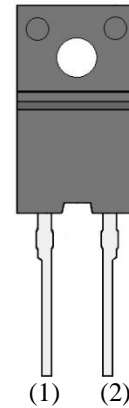
**Applications**

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

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	$^\circ\text{C}$	
Storage Temperature	$T_{STG}$	-40 to 175	$^\circ\text{C}$	

**Electrical Characteristics**

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

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

<sup>(1)</sup>  $R_{th(J-L)}$  is thermal resistance between junction and lead.

Rating and Characteristic Curves

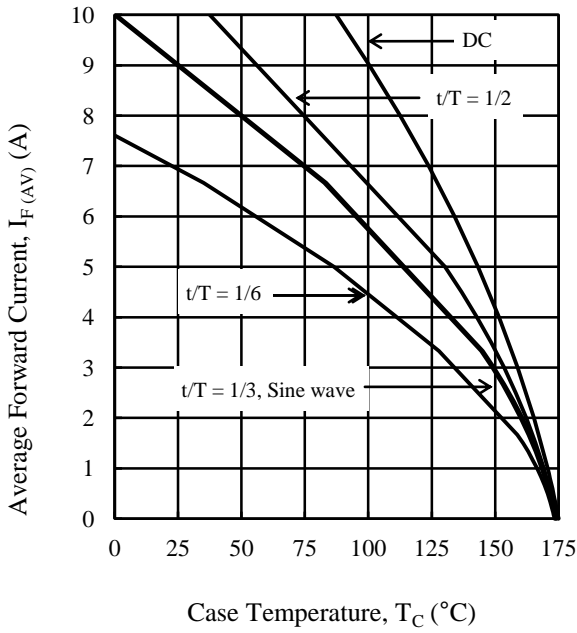


Figure 1.  $T_C$  vs.  $I_{F(AV)}$  Typical Characteristics

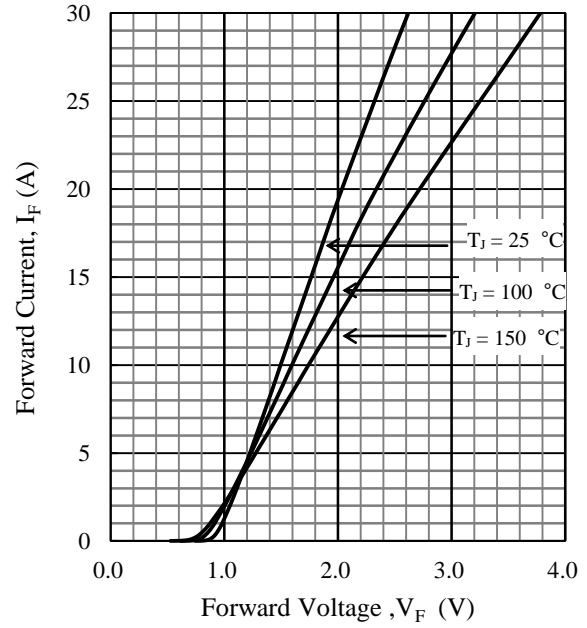


Figure 2.  $V_F$  vs.  $I_F$  Typical Characteristics

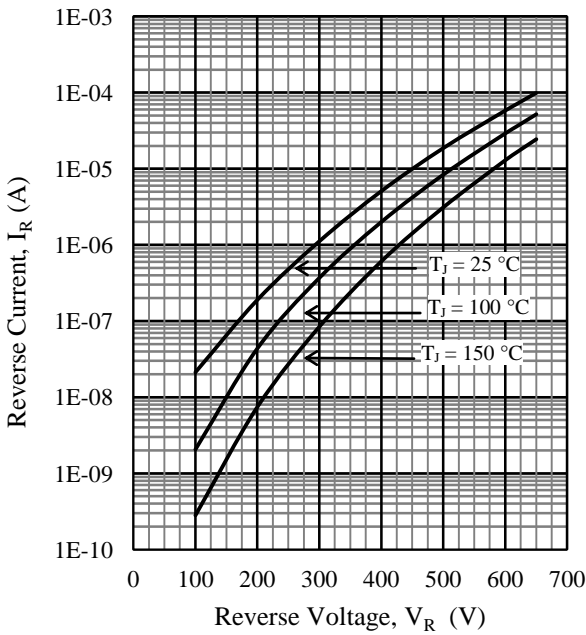
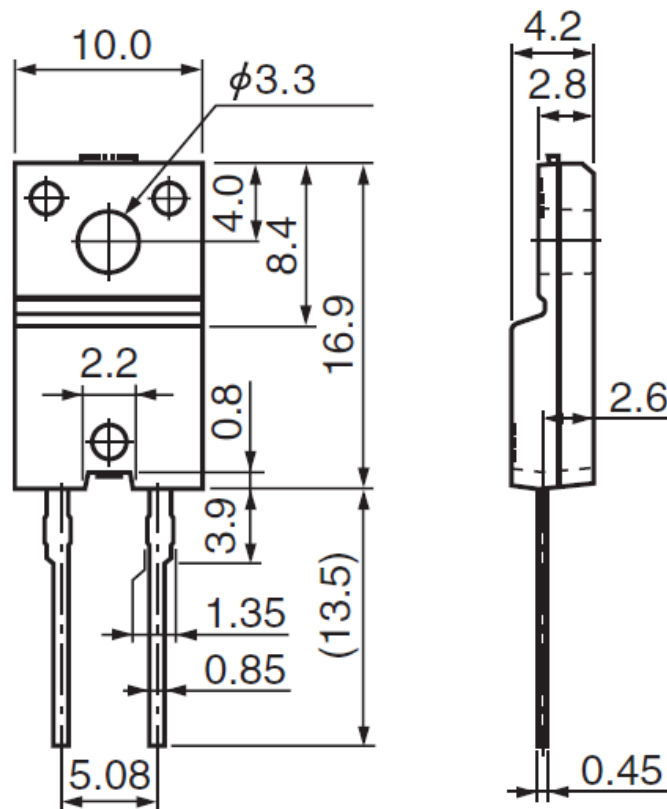


Figure 3.  $V_R$  vs.  $I_R$  Typical Characteristics

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:  $260 \pm 5$  °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 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

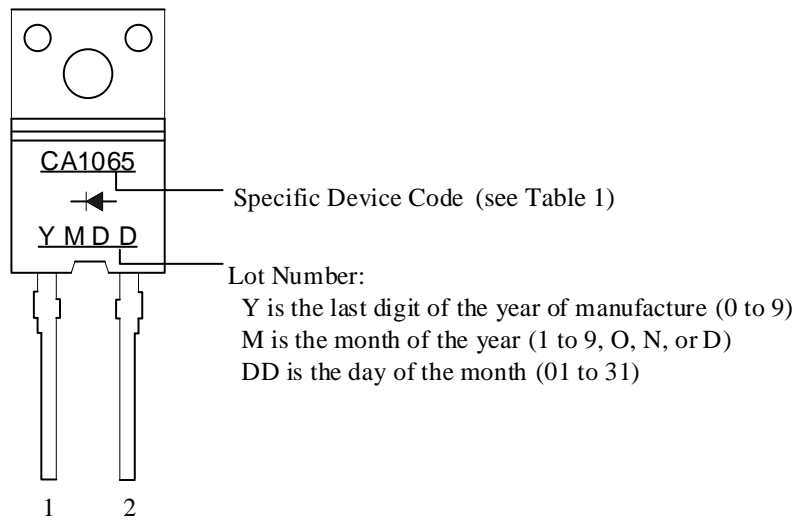


Table 1. Specific Device Code

Specific Device Code	Part Number
CA1065	FMCA-11065

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