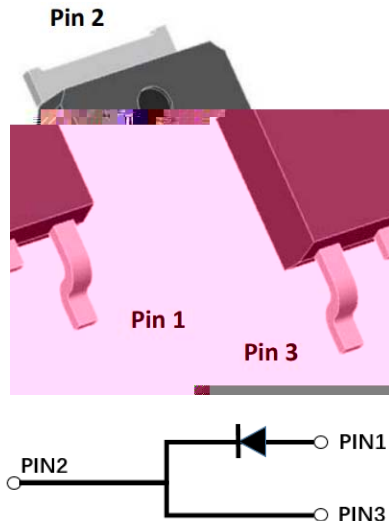


## Silicon Carbide Schottky Diode

$V_{RRM}$	650V
$I_F$ 135°C	11A
$Q_C$	25nC



### Features

- Positive temperature coefficient
- Temperature-independent switching
- Maximum working temperature at 175 °C
- Unipolar devices and zero reverse recovery current
- Zero forward recovery voltage
- Essentially no switching losses
- Reduction of heat sink requirements
- High-frequency operation
- Reduction of EMI

### Typical Applications

Typical applications are in power factor correction(PFC), solar inverter, uninterruptible power supply, motor drives, photovoltaic inverter, automotive battery chargers.

### Mechanical Data

**Package:** TO-252

Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free

**Terminals:** Tin plated leads

**Polarity:** As marked

### Maximum Ratings ( $T_c=25$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Device marking code			D106506DQG2
Reverse voltage (repetitive peak) @ $T_j=25^\circ\text{C}$	$V_{RRM}$	V	650
Reverse voltage (Surge Peak) @ $T_j=25^\circ\text{C}$	$V_{RSM}$	V	650
Reverse voltage (DC) @ $T_j=25^\circ\text{C}$	$V_{DC}$	V	650
Continuous forward current @ $T_c=25^\circ\text{C}$	$I_F$	A	23
Continuous forward current @ $T_c=135^\circ\text{C}$			11
Continuous forward current @ $T_c=160^\circ\text{C}$			6
Non-repetitive peak forward surge current @ $T_c=25^\circ\text{C}$ , $t_p=10\text{ms}$ , Half Sine Wave	$I_{FSM}$	A	65
Power Dissipation @ $T_c=25^\circ\text{C}$	$P_{TOT}$	W	100
Power Dissipation @ $T_c=110^\circ\text{C}$			43
$i^2t$ Value @ $T_c=25^\circ\text{C}$ , $t_p=10\text{ms}$	$i^2t$	$\text{A}^2\text{S}$	21
Operating junction and Storage temperature range	$T_j, T_{stg}$	$^\circ\text{C}$	-55 to +175



# YJD106506DQG2

## Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	$V_F$	V	$I_F=6A, T_J=25^\circ C$	1.31	1.5
			$I_F=6A, T_J=175^\circ C$	1.65	-
Reverse leakage current	$I_R$	$\mu A$	$V_R=650V, T_J=25^\circ C$	0.5	25
			$V_R=650V, T_J=175^\circ C$	5	-
Total capacitive charge	$Q_C$	nC	$V_R=400V, T_J=25^\circ C, Q_C=\int_0^{V_R} I_C(V)dV$	25	-
Total capacitance	C	pF	$V_R=0V, f=1MHZ$	378	-
			$V_R=200V, f=1MHZ$	51	-
			$V_R=400V, f=1MHZ$	49	-
Capacitance Stored Energy	$E_C$	$\mu J$	$V_R=400V$	3	-

## Thermal Characteristics ( $T_a=25$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Value
Thermal resistance	$R_{J-C}$	$^\circ C/W$	1.49

## Typical Characteristics

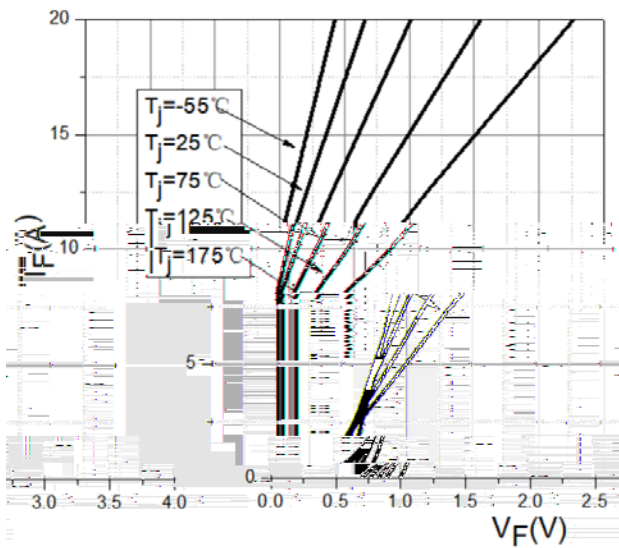


Figure 1. Forward Characteristics

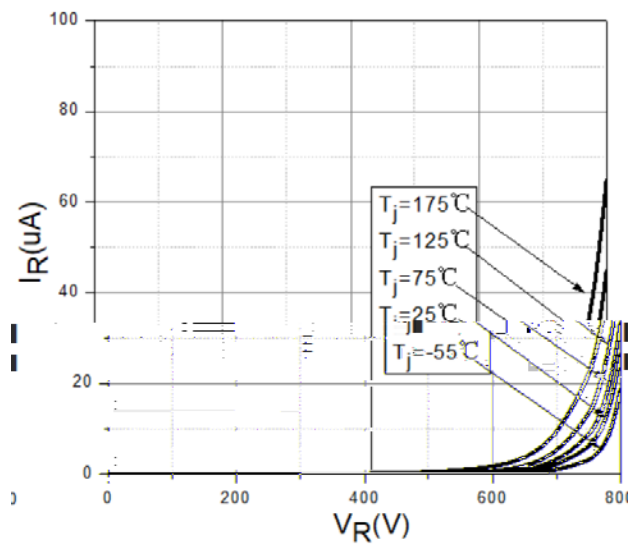


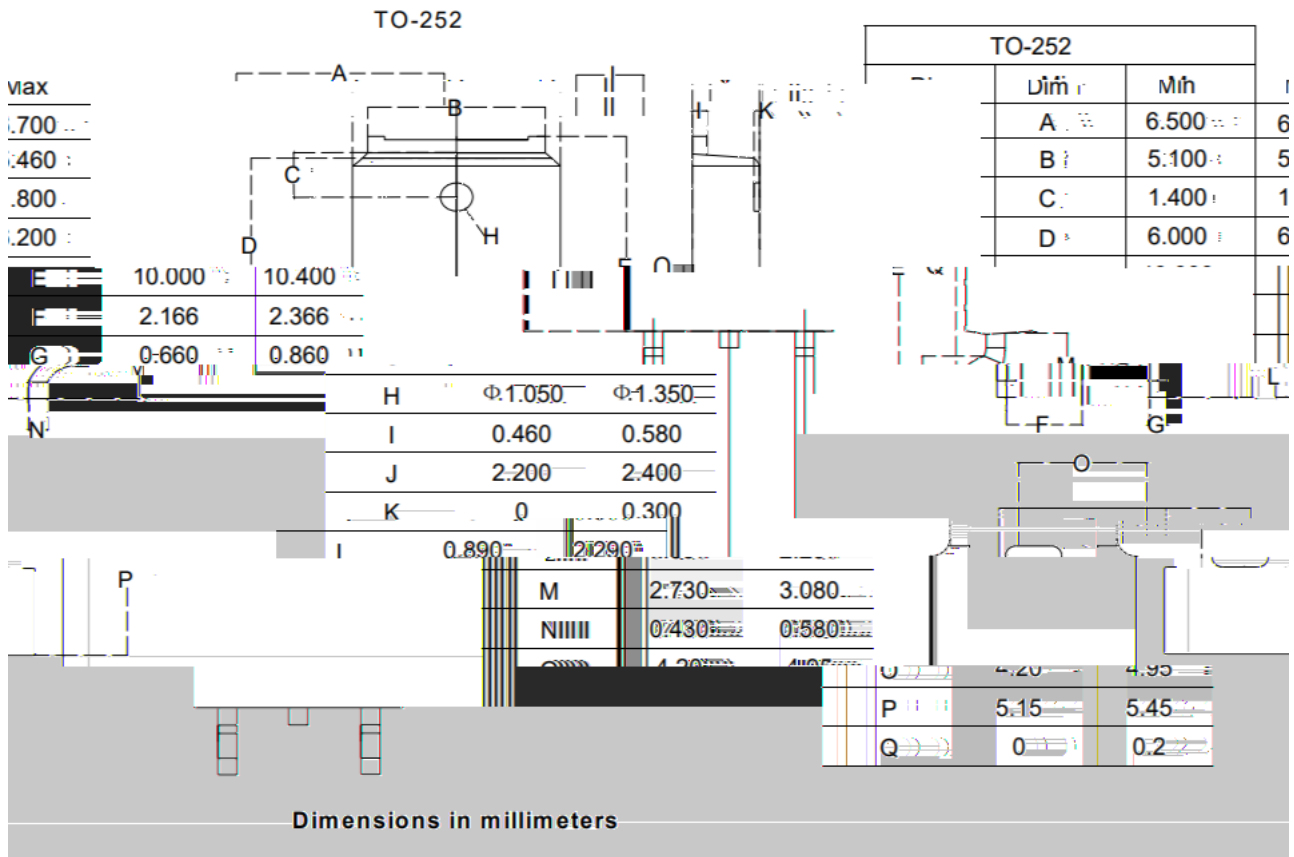
Figure2. Reverse Characteristic





# YJD106506DQG2

## Outline Dimensions





## Disclaimer

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