

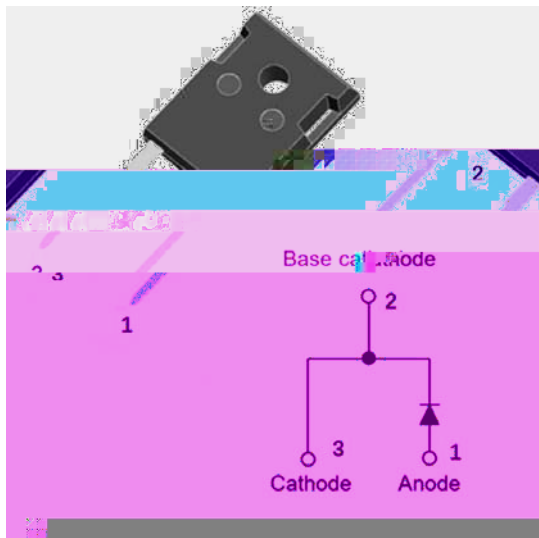
## Silicon Carbide Schottky Diode

$V_{RRM}$	650V
$I_F$ 135°C	26A
$Q_C$	62nC

### Features

- Positive temperature coefficient
- Temperature-independent switching
- Maximum working temperature at 17-

Minverter, electric o



### Mechanical Data

**Package:** TO-247AC

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			D106520NQG2
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 @ $T_c=25^\circ\text{C}$			56
Continuous forward current @ $T_c=135^\circ\text{C}$	$I_F$	A	26
Continuous forward current @ $T_c=148^\circ\text{C}$			20
Non-repetitive peak forward surge current @ $T_c=25^\circ\text{C}$ , $t_p=10\text{ms}$ , Half Sine Wave	$I_{FSM}$	A	160
Power Dissipation @ $T_c=25^\circ\text{C}$			187
Power Dissipation @ $T_c=110^\circ\text{C}$	$P_{TOT}$	W	81
$i^2t$ Value @ $T_c=25^\circ\text{C}$ , $t_p=10\text{ms}$	$i^2t$	$\text{A}^2\text{S}$	128
Operating junction and Storage temperature range	$T_j, T_{slg}$	$^\circ\text{C}$	-55 to +175



**Electrical Characteristics**

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	$V_F$	V	$I_F=20A, T_j=25^{\circ}C$	1.35	1.55
			$I_F=20A, T_j=175^{\circ}C$	1.75	-
Reverse leakage current	$I_R$	$\mu A$	$V_R=650V, T_j=25^{\circ}C$	1	25
			$V_R=650V, T_j=175^{\circ}C$	5	-
Total capacitive charge	$Q_C$	nC	$V_R=400V, T_j=25^{\circ}C, Q_C=\int_0^{V_R} I_C(V)dV$	62	-
Total capacitance	C	pF	$V_R=0V, f=1MHZ$	1157	-
			$V_R=200V, f=1MHZ$	115.6	-
			$V_R=400V, f=1MHZ$	107	-
Capacitance Stored Energy	$E_C$	$\mu J$	$V_R=400V$	7.8	-

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

PARAMETER	SYMBOL	UNIT	Value
Thermal resistance	$R_{j-c}$	$^{\circ}C/W$	0.8

**Typical Characteristics**

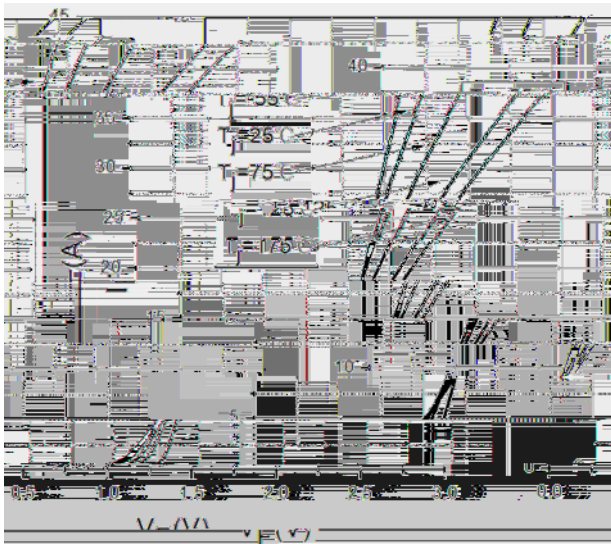


Figure 1. Forward Characteristics

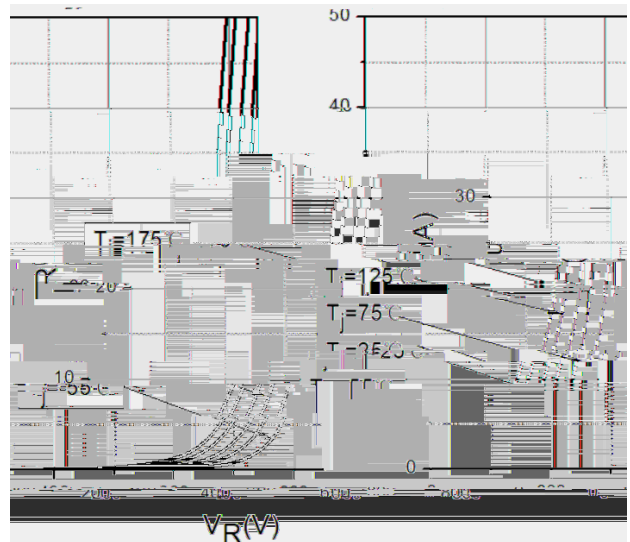


Figure2. Reverse Characteristic



Figure 3. Capacitance vs. Reverse Voltage

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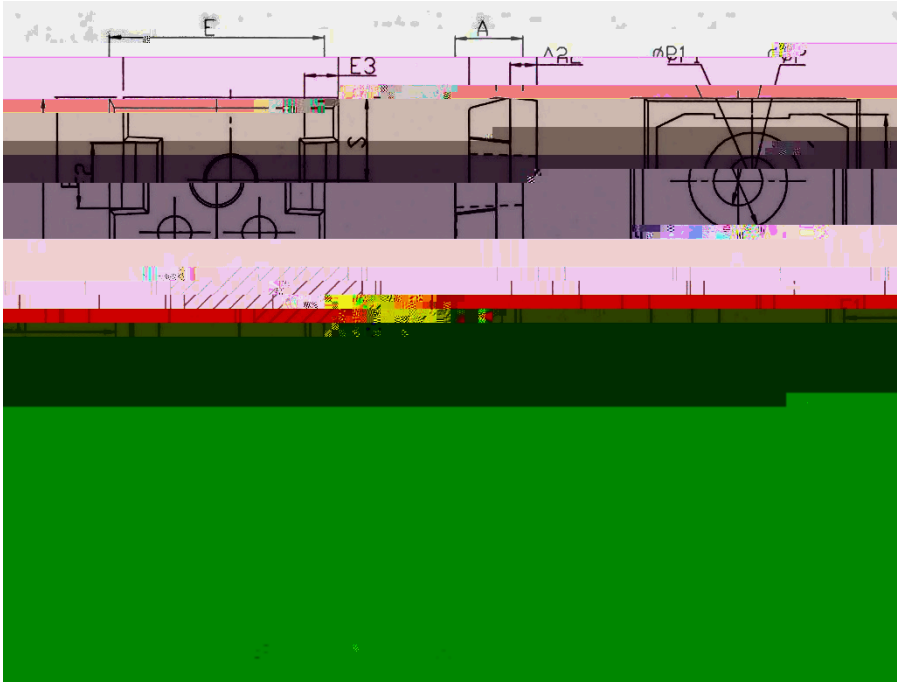
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Dimensions

TO-  
247AC



TO-247AC		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.11	1.36
b2	1.91	2.21
c	0.51	0.75
D	20.70	21.30
D1	16.25	16.85
E	15.50	16.10
E1	13.00	13.60
E2	4.80	5.20
E3	2.30	2.70
e	10.88BSC	
L	19.62	20.22
L1	-	4.30
P	3.40	3.80
P1	-	7.30
S	6.15BSC	

