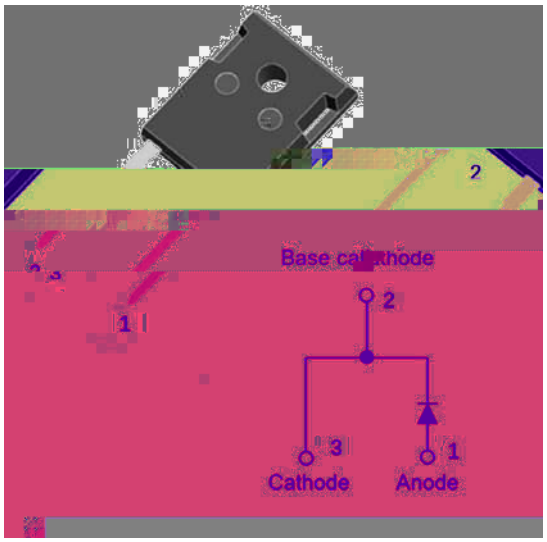
Silicon Carbide Schottky Diode

V_{RRM}	650V
$I_{F\ 135°C}$	26A
Q_C	62nC

Features

- Positive temperature coefficient
- Temperature-independent switching
- Maximum working temperature at 17- l À ض p τ γ Minverter, electric c



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)

PARAMTETER	SYMBOL	UNIT	VALUE
Device marking code			D106520NQG2
Reverse voltage (repetitive peak) @ T_j=25°C	V_{RRM}	V	650
Reverse voltage (Surge Peak) @ T_j=25°C	V_{RSM}	V	650
Reverse voltage (DC) @ T_j=25°C	V_{DC}	V	650
Continuous forward current @ T_c=25°C	I_F	A	56
Continuous forward current @ T_c=135°C			26
Continuous forward current @ T_c=148°C			20
Non-repetitive peak forward surge current @ T_c=25°C, tp=10ms, Half Sine Wave	I_{FSM}	A	160
Power Dissipation@ T_c=25°C	P_{TOT}	W	187
Power Dissipation@ T_c=110°C			81
i^2t Value@ Tc=25°C ,tp=10ms	$\int i^2dt$	A^2S	128
Operating junction and Storage temperature range	T_j ,T_{stg}	°C	-55 to +175

■Electrical Characteristics

PARAMTETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	V_F	V	I_F=20A, T_j=25°C	1.35	1.55
			I_F=20A, T_j=175°C	1.75	-
Reverse leakage current	I_R	μA	V_R=650V, T_j=25°C	1	25
			V_R=650V, T_j=175°C	5	-
Total capacitive charge	Q_C	nC	V_R=400V, T_j=25°C , $QC=\int_0^{VR} C(V)dV$	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	μJ	V_R=400V	7.8	-

■Thermal Characteristics (T_a=25 Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Value
Thermal resistance	$R_{\theta J-C}$	°C /W	0.8

■Typical Characteristics

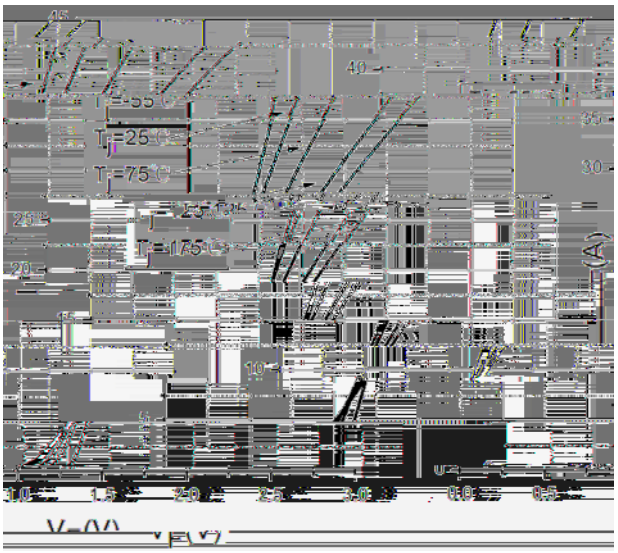


Figure 1. Forward Characteristics

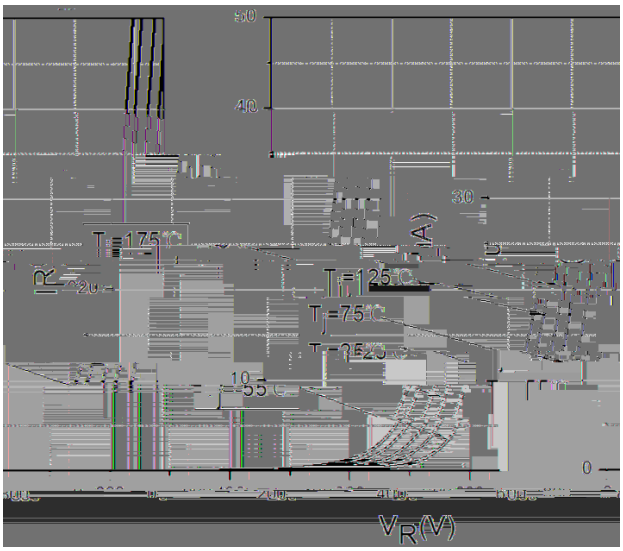


Figure2. Reverse Characteristic

Figure 3. Capacitance vs. Reverse Voltage Fig

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Dimensions

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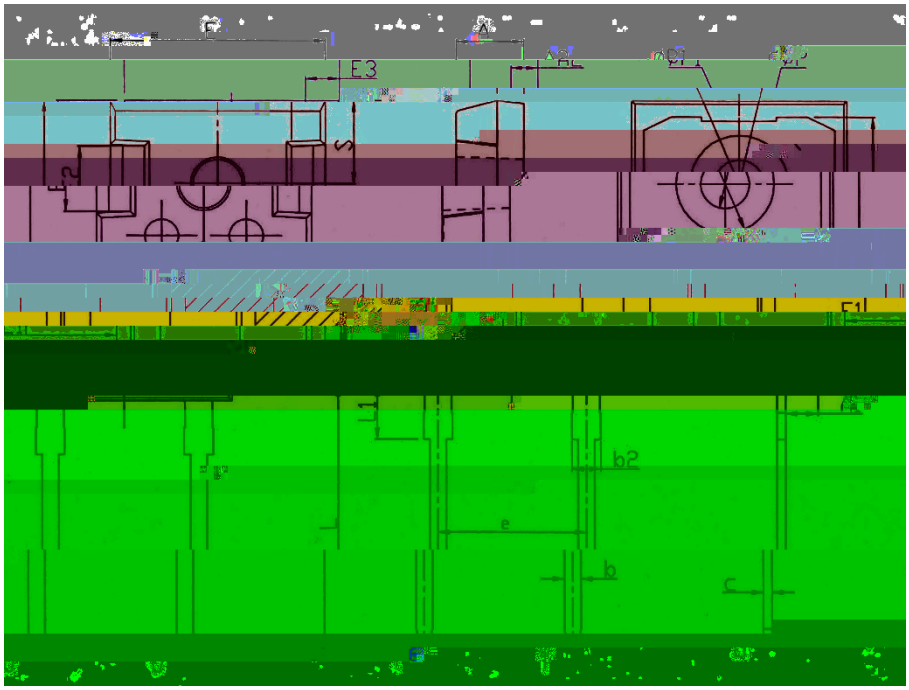

TO-247AC		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.11	1.36
b2	1.91	2.21
c	0.51	0.75
D	20.70	21.30
D1	16.25	16.85
E	15.50	16.10
E1	13.00	13.60
E2	4.80	5.20
E3	2.30	2.70
e	10.88BSC	
L	19.62	20.22
L1	-	4.30
φ P	3.40	3.80
φ P1	-	7.30
S	6.15BSC	