



Silicon Carbide Schottky Diode

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Typical Applications

Typical applications are in power factor correction(PFC), solar inverter, uninterruptible power supply, motor drives, photovoltaic inverter, electric car and charger.

Mechanical Data

- **Package:** TO-220AC
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads
- **Polarity:** As marked

■Maximum Ratings ($T_c=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Device marking code			D106520PQG2
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	53
Continuous forward current @ $T_c=135^\circ\text{C}$			24
Continuous forward current @ $T_c=145^\circ\text{C}$			20
Non-repetitive peak forward current @ $T_j \leq 175^\circ\text{C}$	I_{FSM}	A	100

$T_c=110^\circ\text{C}$			74
i^2t Value @ $T_c=25^\circ\text{C}$, $t_p=10\text{ms}$	$\int i^2 dt$	A^2S	128
Operating junction and Storage temperature range	T_j, T_{stg}	$^\circ\text{C}$	-55 to +175



YJD106520PQG2

■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	μA	$V_R=650V, T_J=25^{\circ}C$	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	μJ	$V_R=400V$	7.8	-

■Thermal Characteristics ($T_A=25$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Value
Thermal resistance	$R_{\theta J-C}$	$^{\circ}C/W$	0.88

■Typical Characteristics

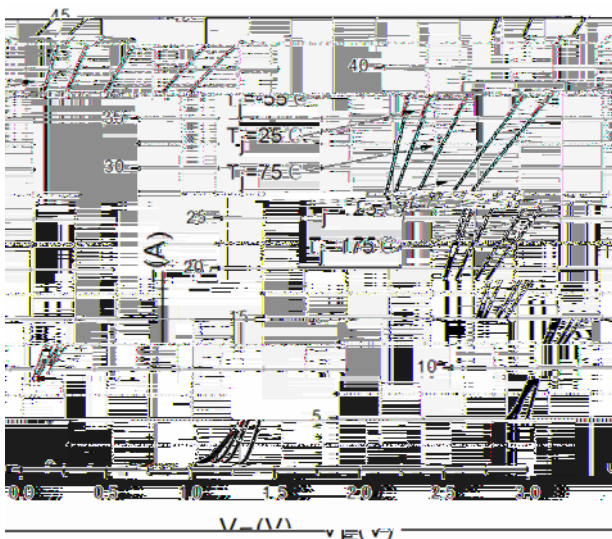


Figure 1. Forward Characteristics

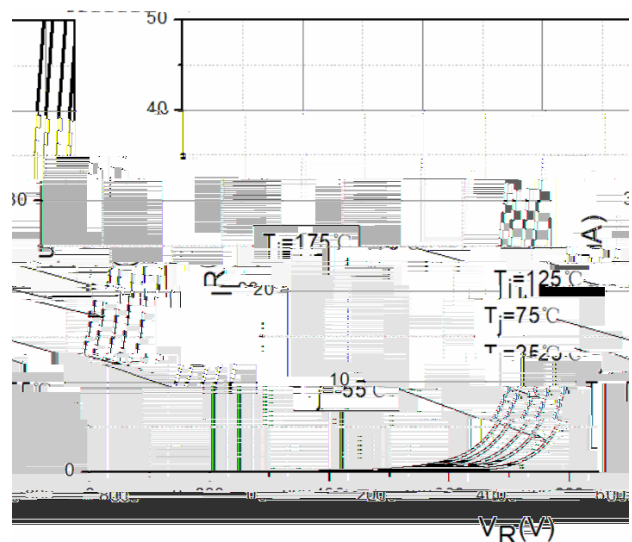


Figure2. Reverse Characteristic



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TO-220AC		
Dim	Min	Max
A	9.95	10.35
B	2.55	2.95
C	3.75	4.05
D	14.95	15.25
E	3.75	4.25
F	0.26	0.5
G	0.68	0.94
H	13.3	13.9
I	4.86	5.26
J	4.38	4.78
K	1.14	1.4
L	2.37	2.79



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