



Silicon Carbide Schottky Diode

Features

- Positive temperature coefficient
- Temperature-independent switching
- Maximum working temperature at 175 °C
- Unipolar devices and zero reverse recovery current
- Zero forward recovery current
- Essentially no switching y)

Data

Mechanical

Package: TO-263

Terminals: Tin plated leads

Polarity: As marked

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

PARAMETER	SYMBOL	UNIT	VALUE
Device marking code			D112010BQG2
Reverse voltage (repetitive peak) @ $T_j=25^\circ\text{C}$	V_{RRM}	V	1200
Reverse voltage (Surge Peak) @ $T_j=25^\circ\text{C}$	V_{RSM}	V	1200
Reverse voltage (DC) @ $T_j=25^\circ\text{C}$	V_{DC}	V	1200
Continuous forward current @ $T_c=25^\circ\text{C}$	I_F	A	33
Continuous forward current @ $T_c=135^\circ\text{C}$			14
Continuous forward current @ $T_c=141^\circ\text{C}$			10
Non-repetitive peak forward surge current @ $T_c=25^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Wave	I_{FSM}	A	85
Power Dissipation @ $T_c=25^\circ\text{C}$	P_{TOT}	W	158
Power Dissipation @ $T_c=110^\circ\text{C}$			68
i^2t Value @ $T_c=25^\circ\text{C}$, $t_p=10\text{ms}$	i^2t	A^2S	36
Operating junction and Storage temperature range	T_j, T_{stg}	$^\circ\text{C}$	-55 to +175



YJD112010BQG2

Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	V_F	V	$I_F=10A, T_j=25^\circ C$	1.42	1.54
			$I_F=10A, T_j=175^\circ C$	2.1	-
Reverse leakage current	I_R	μA	$V_R=1200V, T_j=25^\circ C$	1.3	13
			$V_R=1200V, T_j=175^\circ C$	6	-
Total capacitive charge	Q_C	nC	$V_R=800V, T_j=25^\circ C, Q_C=\int_0^{V_R} I_C(V)dV$	53	-
Total capacitance	C	pF	$V_R=0V, f=1MHz$	700	-
			$V_R=400V, f=1MHz$	49	-
			$V_R=800V, f=1MHz$	39	-
Capacitance Stored Energy	E_C	μJ	$V_R=800V$	14	-

Thermal Characteristics $T_a=25$ Unless otherwise specified

PARAMETER	SYMBOL	UNIT	VALUE
Thermal resistance	R_{j-c}	$^\circ C/W$	0.95

Typical Characteristics

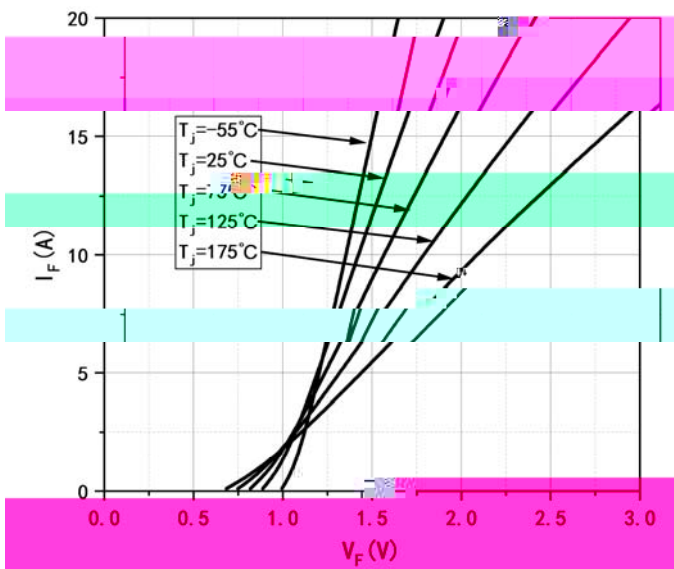


Figure 1. Forward Characteristics

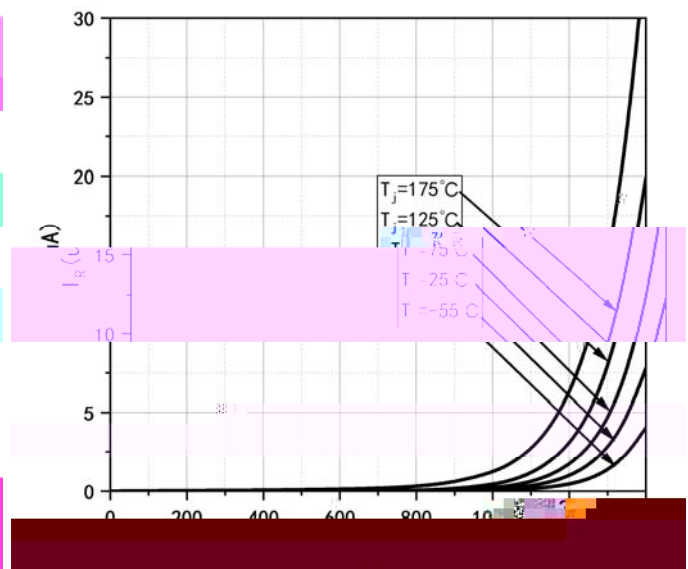


Figure 2. Reverse Characteristic



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