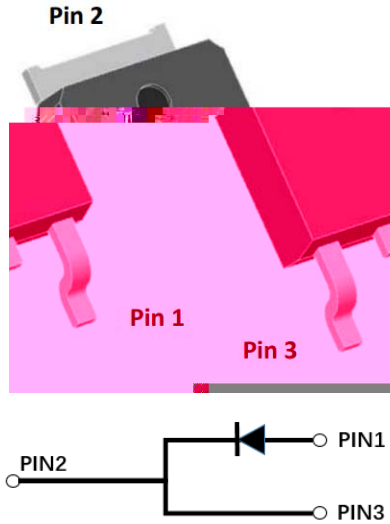


Silicon Carbide Schottky Diode

RR	650
F 135°C	14A
Qc	30rC



Features

- Positive temperature coefficient
- Temperature-independent reverse recovery
- Low forward voltage drop at 175°C
- Low reverse recovery time
- Zero forward recovery time
- Essential for switching losses
- Reduced forward bias requirements
- High frequency operation
- Reduced EMI

Typical Applications

Typical applications are in power factor correction (PFC), solar inverters, motor drives, power supplies, and electric car and chargers.

Mechanical Data

- Package: TO-262
- Terminals: Tin plated leads
- Polarity: As marked

Maximum Ratings (T_c=25°C unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Device marking code			D106508DQG2
Reverse current (recovery-free) @ T=25°C	RR		650
Reverse current (Storage-Real) @ T=25°C	RS		650
Reverse current (DC) @ T=25°C	DC		650
Continuous forward current @ T _c =25°C	F	A	32
Continuous forward current @ T _c =135°C			14
Continuous forward current @ T _c =157°C			8
Surge forward current for surge (10ms) @ T _c =25°C, I _{FSM} = 10ms	FS	A	70
Power Dissipation @ T _c =25°C	P _{TOT}		132
Power Dissipation @ T _c =110°C			57
Surge power @ T _c =25°C, t _{10ms}	J ² d	A ² S	24
Operating temperature range	T, T _s	°C	-55 to +175



YJD106508DQG2

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage	V _F		I _F =8A, T=25°C	1.3	1.55
			I _F =8A, T=175°C	1.6	-
Reverse leakage current	I _R	A	V _R =650, T=25°C	0.5	25
			V _R =650, T=175°C	2	-
Total capacitance	C _T	nF	V _R =400, T=25°C, Q _C =∫I _R dt	30	-
Total capacitance	C _T	F	V _R =0, f=1 kHz	543	-
			V _R =200, f=1 kHz	55	-
			V _R =400, f=1 kHz	52	-
Capacitance Sorel Error	E _C		V _R =400	3.7	-

■Thermal Characteristics (T_a=25 °C unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Value
Thermal resistance	R _{θ-jc}	°C/W	1.14

■Typical Characteristics

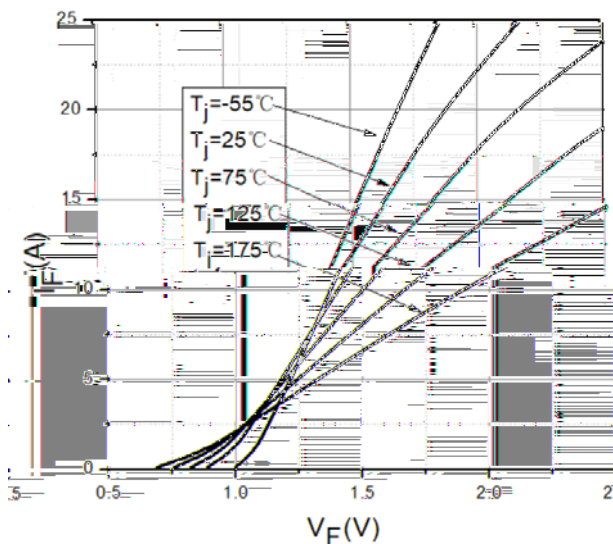


Figure 1. Forward Characteristics

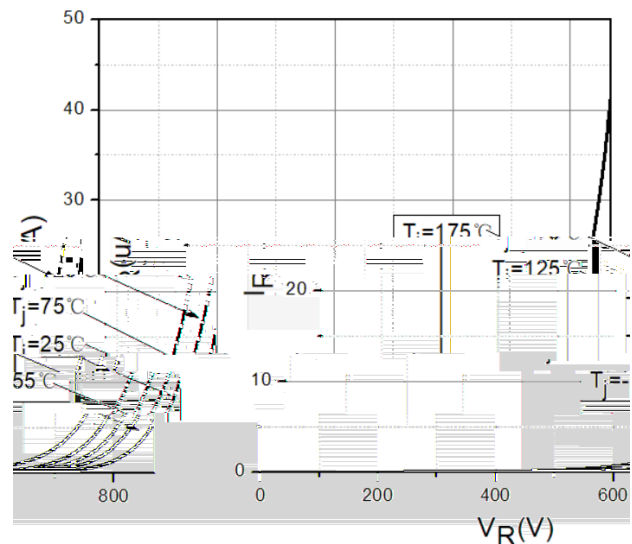


Figure 2. Reverse Characteristics



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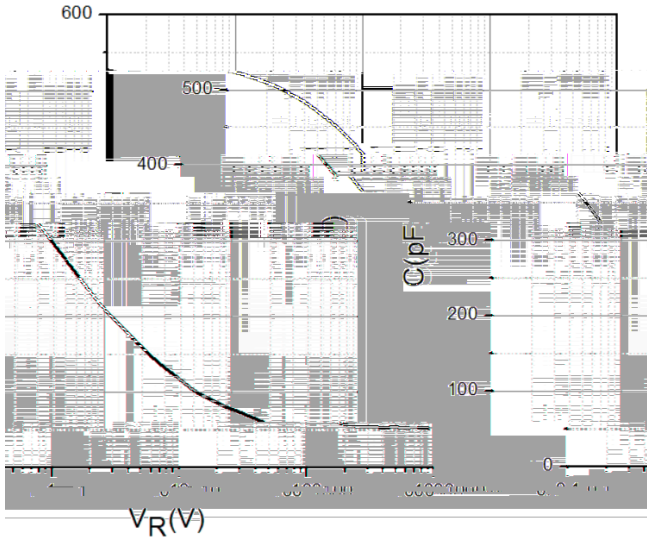


Figure 3. Capacitance Characteristics

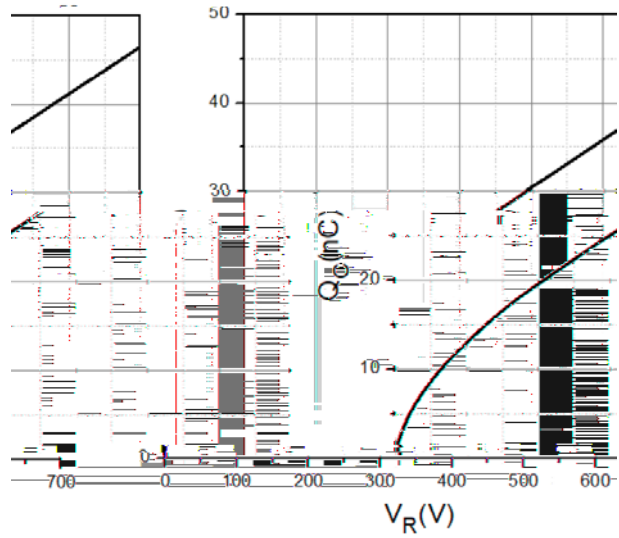


Figure 4. Total Capacitance Characteristics

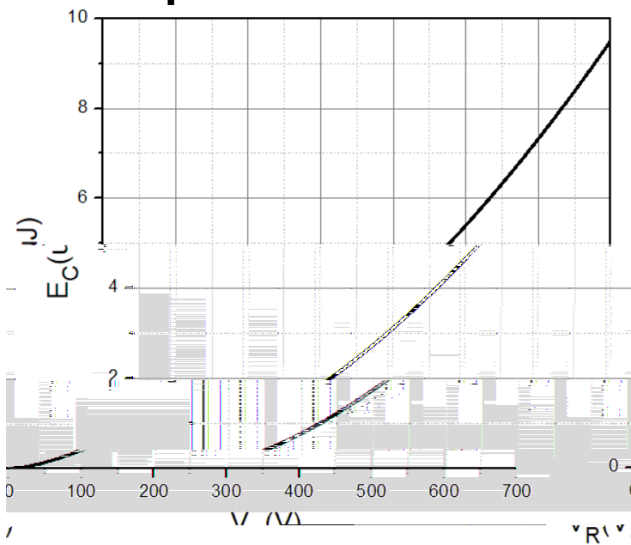


Figure 5. Stored Energy

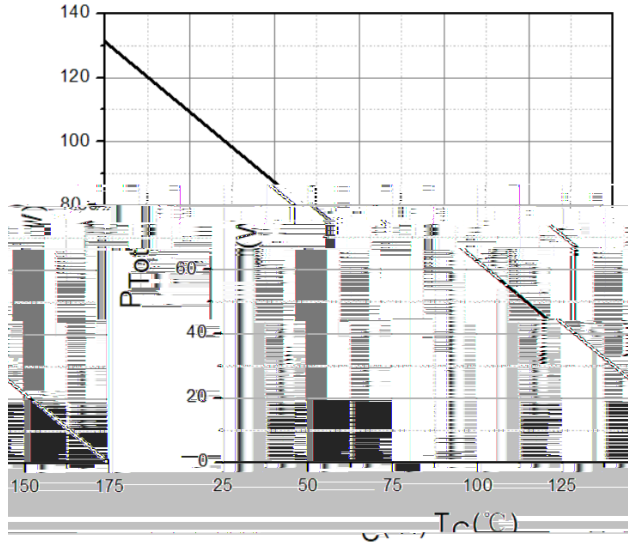


Figure 6. Power Derating

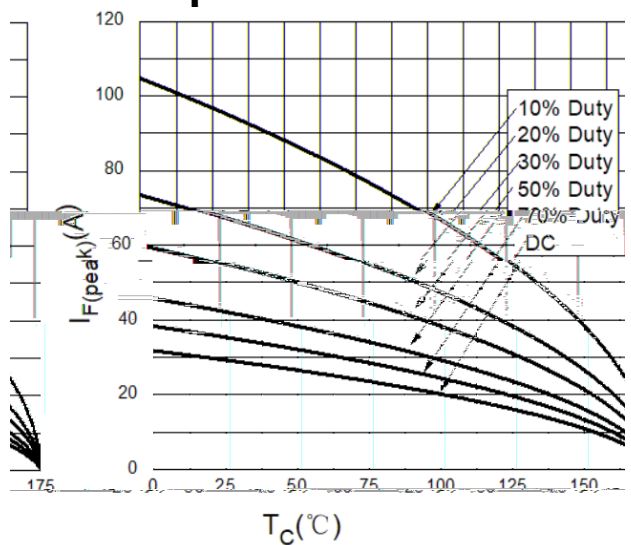


Figure 7. Current Derating

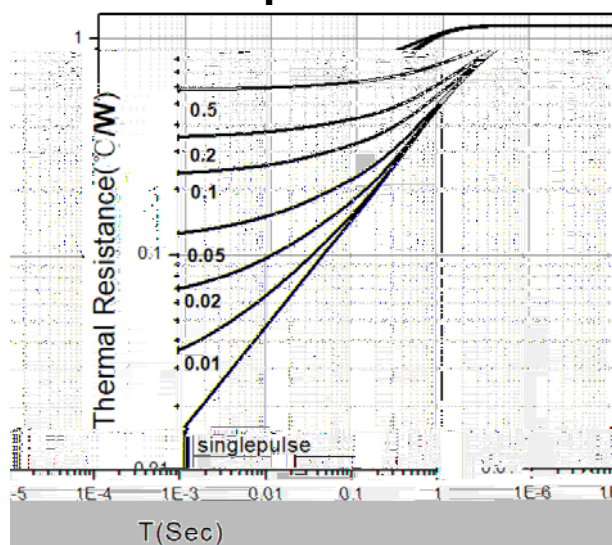
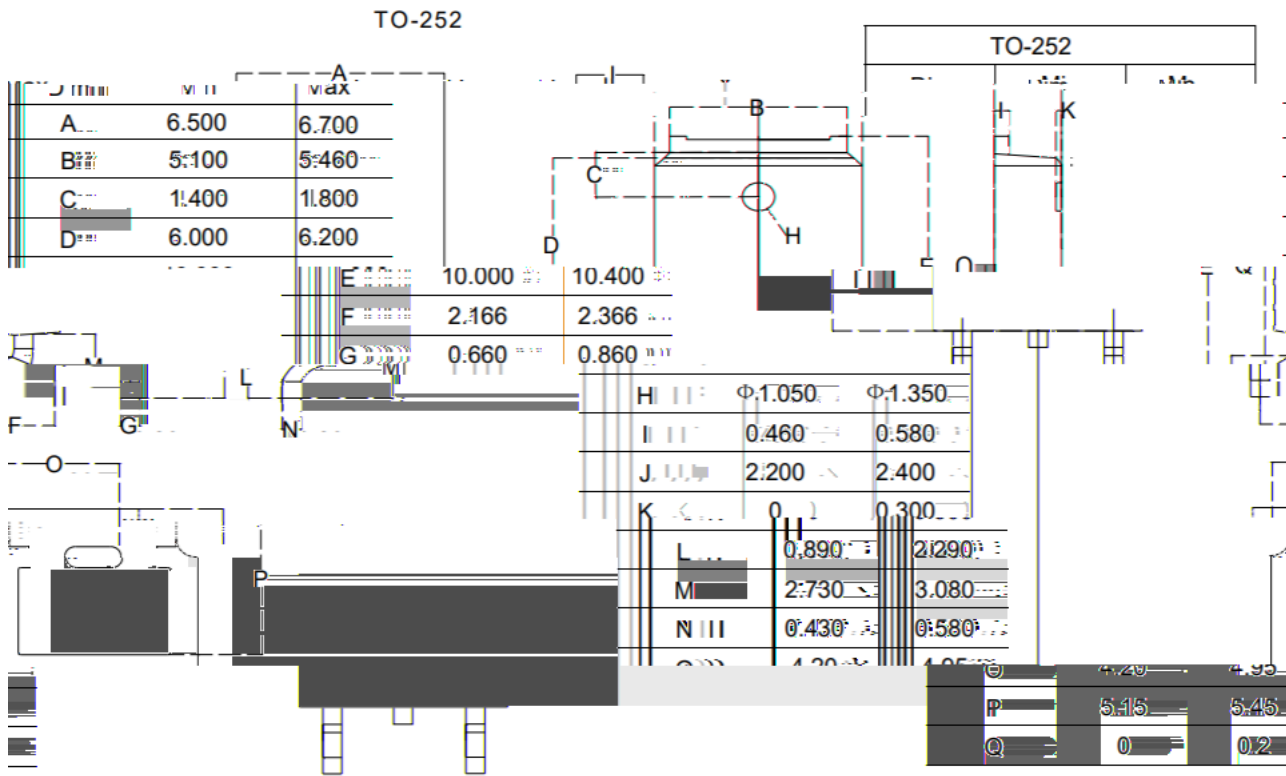


Figure 8. Transient Thermal Impedance



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Outline Dimensions



Dimensions in millimeters



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