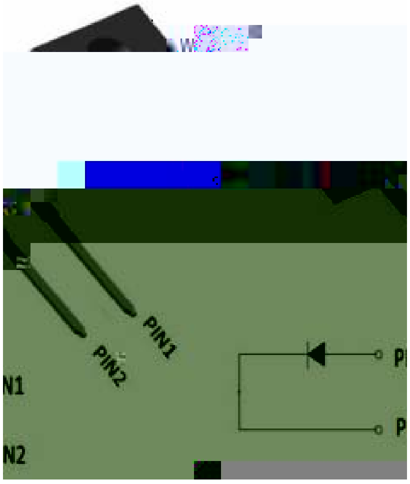
YJD106506FQG2

RoHS
COMPLIANT

Silicon Carbide Schottky Diode

V_{RRM}	650 V
$I_{F\ 127°C}$	6 A
Q_C	25 nC



Features

- ● Positive temperature coefficient
- ● Temperature-independent switching
- ● Maximum working temperature at 175 °C
- ● Unipolar devices and zero reverse recovery current
- ● Zero forward recovery voltage
- ● Essentially no switching losses
- ● Reduction of heat sink requirements
- ● High-frequency operation
- ● Reduction of EMI

Typical Applications

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

Mechanical

[redacted]	SYMBOL	UNIT	VALUE
Reverse voltage (Surge Peak) **@ T_j = 25ÁC**	V_{RSM}	V	650
Reverse voltage (DC) **@ T_j = 25ÁC**	V_{DC}	V	650
Continuous forward current @ T_c = 25ÁC	I_F	A	12
Continuous forward current @ T_c = 127ÁC			6
Non-repetitive peak forward surge current **@ T_c = 25ÁC, tp = 10ms, Half Sine Wave**	I_{FSM}	A	65
Power Dissipation@ T_c = 25ÁC	P_{TOT}	W	31
Power Dissipation@ T_c = 110ÁC			13
i^2t Value@ Tc = 25ÁC , tp = 10ms	**^{2}dt Úi**	**A**	

■Electrical Characteristics

PARAMTETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	V_F	V	I_F=6A, T_j=25°C	1.31	1.5
			I_F=6A, T_j=175°C	1.65	-
Reverse leakage current	I_R	μA	V_R=650V, T_j=25°C	0.5	25
			V_R=650V, T_j=175°C	5	-
Total capacitive charge	Q_C	nC	V_R=400V, T_j=25°C , $QC=\int_0^{VR}C(V)dV$	25	-
Total capacitance	C	pF	V_R=0V, f=1MHZ	378	-
			V_R=200V, f=1MHZ	51	-
			V_R=400V, f=1MHZ	49	-
Capacitance Stored Energy	E_C	μJ	V_R=400V	3	-

■Thermal Characteristics (T$_a$=25 Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Value
Thermal resistance	$R_{θJ\text{-}C}$	°C /W	4.76

■Typical Characteristics

Figure 1. Forward CharacterCharacteristi

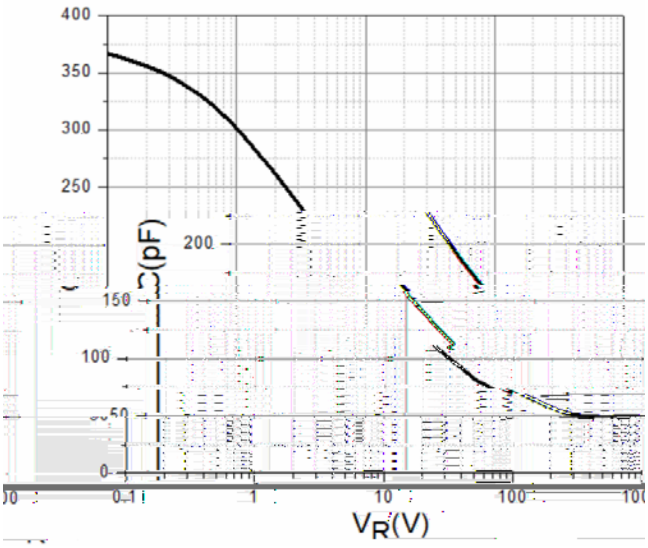


Figure 3. Capacitance vs. Reverse Voltage

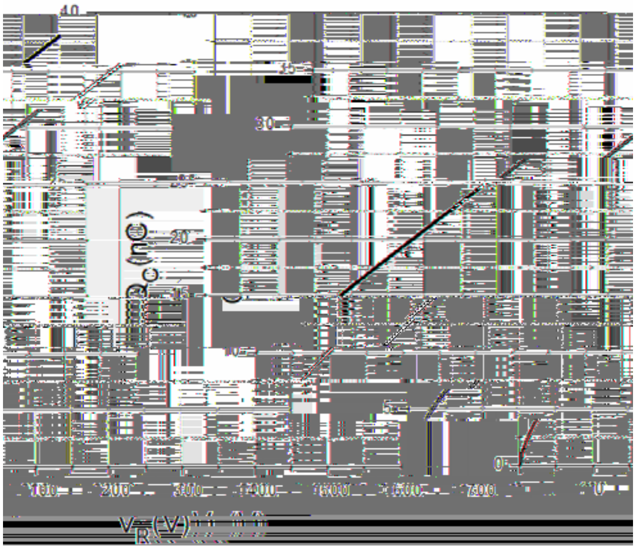


Figure 4. Total Capacitance Charge vs. Reverse Voltage

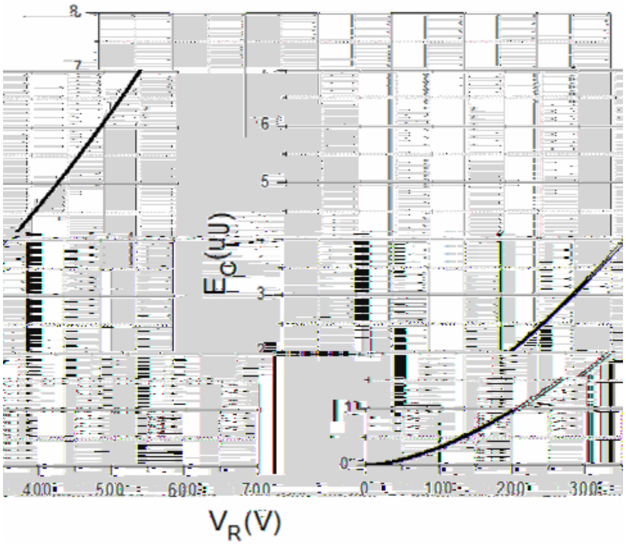


Figure 5. Capacitance Stored Energy

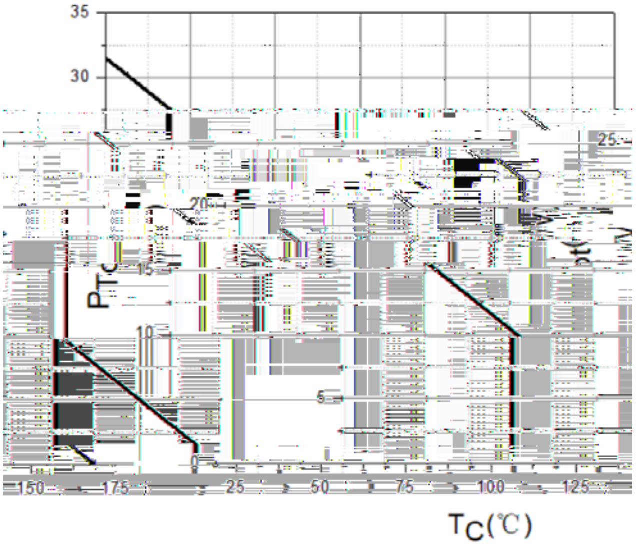
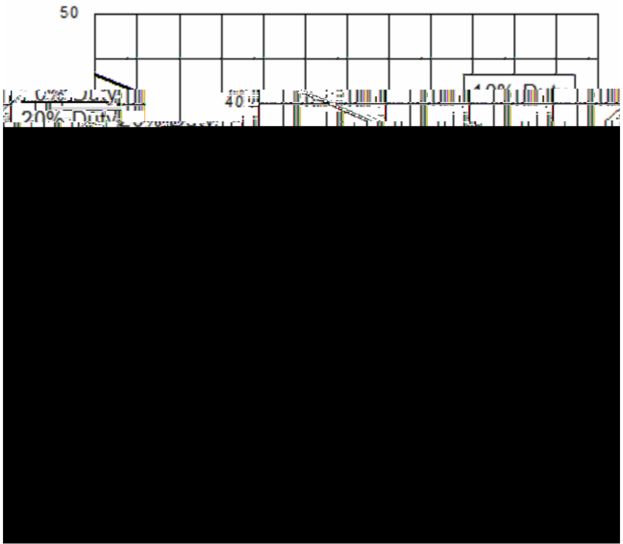


Figure 6. Power Derating



[redacted]

Figure 7. Current Derating

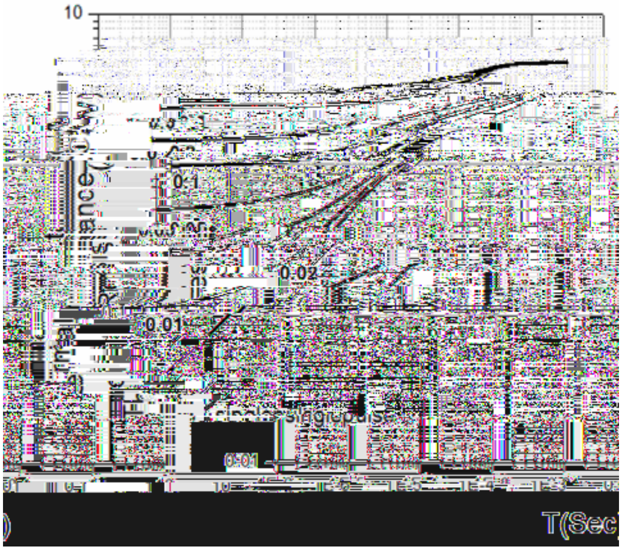
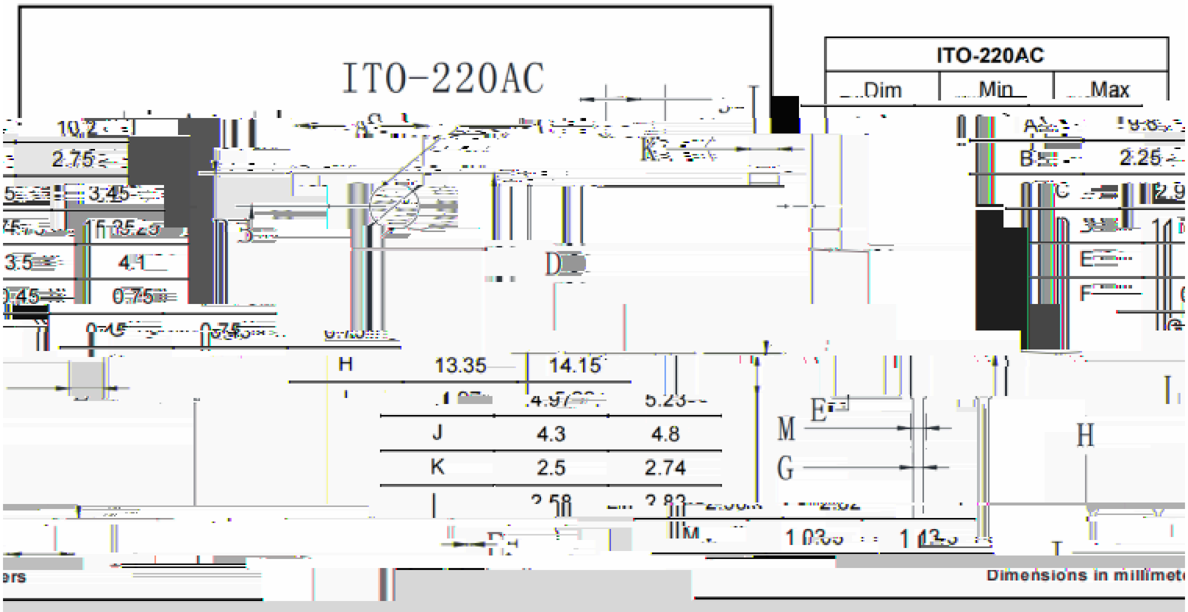


Figure 8. Transient Thermal Impedance

■Outline Dimensions



ITO-220AC		
Dim	Min	Max
A	[illegible]	[illegible]
B	[illegible]	2.25
C	[illegible]	[illegible]
E	[illegible]	[illegible]
F	[illegible]	[illegible]
H	13.35	14.15
I	4.97	5.23
J	4.3	4.8
K	2.5	2.74
L	2.58	2.83
M	1.03	1.13

Dimensions in millimet

'LVFODLPHU

7KH LQIRUPDWLRQ SUHVHQWHG LQ WKLV GRFXPHQW <DQJ]KRX <DQJMLH (OHFWURQLF &R., /WG. UHV
ULJKW WR PDNH FKDQJHV WR WKH SURGXFWV RU VSHFLILFDWLRQV GHVFULEHG KHUHLQ ZLWKRXW QRWLFH, LQ
RU RWKHUZLVH

7KH SURGXFW OLVWHG KHUHLQ LV GHVLJQHG WR EH XVHG ZLWK RUGLQDU\ HOHFWURQLF HTXLSPHQW RU GHYLFHV WKDQG Q
HTXLSPHQW RU GHYLFHV ZKLFK UHTXLUH KLJK OHYHO RI UHOLDELOLW\ RU WKH PDOIXQFWLRQ RI ZKLFK ZRXOG GLUHFWO\ HQGDQJHU KXPDQ OLIH
PHGLFDO LQVWUXPHQWV, WUDQVSRUWDWLRQ HTXLSPHQW, DHURVSDFH PDFKLQHU\, QXFOHDU UHDFWRU FRQWUROOHUV DQ
GHYLFHV. <DQJMLH RU DQ\RQH RQ LWV EHKDOI DVVXPH QR UHVSRQVLELOLW\ RU OLDELOLW\ IRU DQ\ GDPDJHV UHVXOWLQJ IURP VXFK LP
RI VDOH

7KLV SXEOLFDWLRQ VXSHUVHGHV DQG UHSODFHV DOO LQIRUPDWLRQ SUHYLRXVO\ VXSSOLHG.)RU DGGLWLRQDO LQIRUPDWLRQ, SOHDVH YLVLW RX
KWWS://ZZZ.\DQJMLH.FRP