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- Solar inverter
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Parameter	Value	Unit
V _{DS, min} @ T _{j(max)}	100	V
I _{D, pulse}	390	A
R _{DS(ON)}		

Absolute Maximum Ratings at $T_j=25$ unless otherwise noted
Parameter

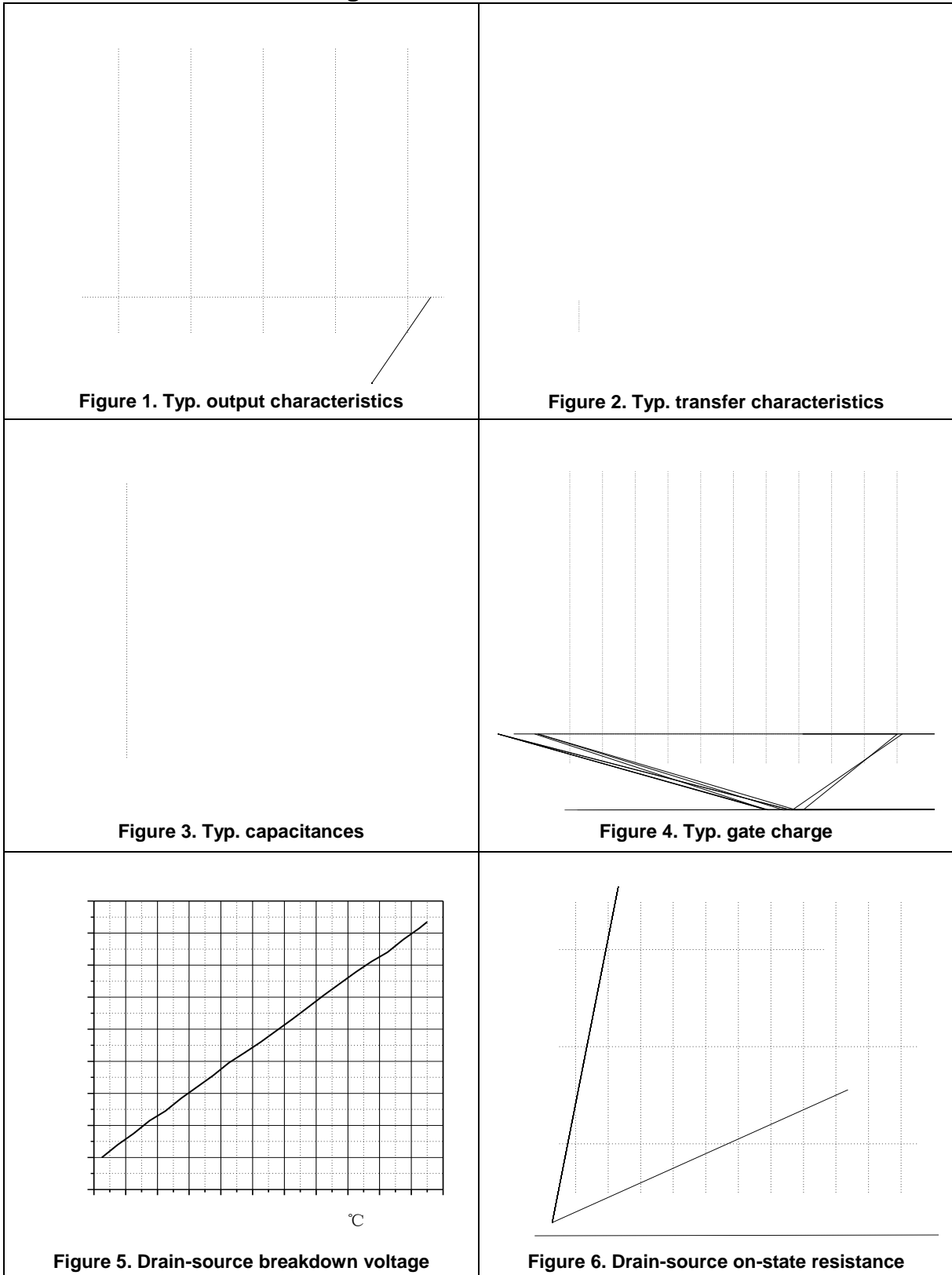
Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		6125		pF	$V_{GS}=0\text{ V}$, $V_{DS}=50\text{ V}$, 1 MHz
Output capacitance	C_{oss}		792		pF	
Reverse transfer capacitance	C_{rss}		15.1		pF	
Turn-on delay time	$t_{d(on)}$		28.2		ns	$V_{GS}=10\text{ V}$, $V_{DS}=50\text{ V}$, $R_G=2.2$ $I_D=22\text{ A}$
Rise time	t_r		7.5		ns	
Turn-off delay time	$t_{d(off)}$		81.9		ns	
Fall time	t_f		20.1		ns	

Gate Charge Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Total gate charge	Q_g		101.6		nC	$V_{GS}=10\text{ V}$, $V_{DS}=50\text{ V}$, $I_D=22\text{ A}$
Gate-source charge	Q_{gs}		20.6		nC	

Electrical Characteristics Diagrams



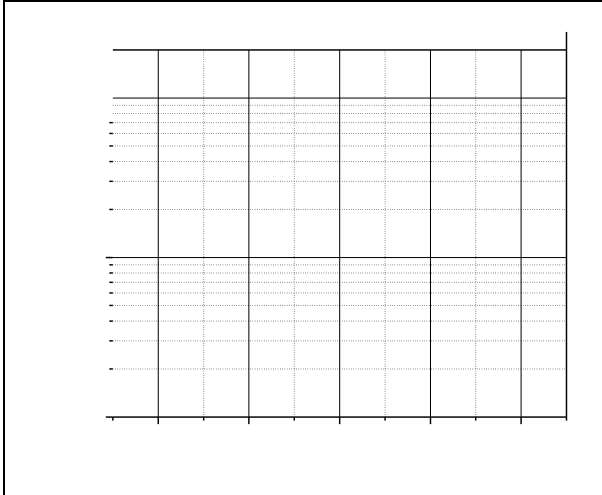


Figure 7. Forward characteristic of body diode

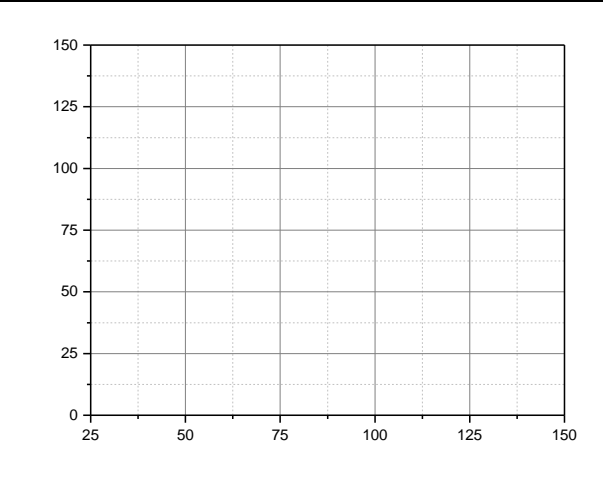


Figure 8. Drain current

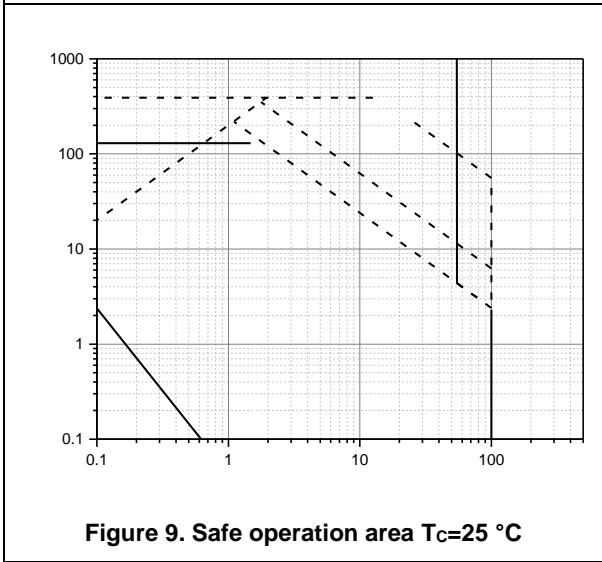


Figure 9. Safe operation area $T_c=25\text{ }^\circ\text{C}$

Test circuits and waveforms

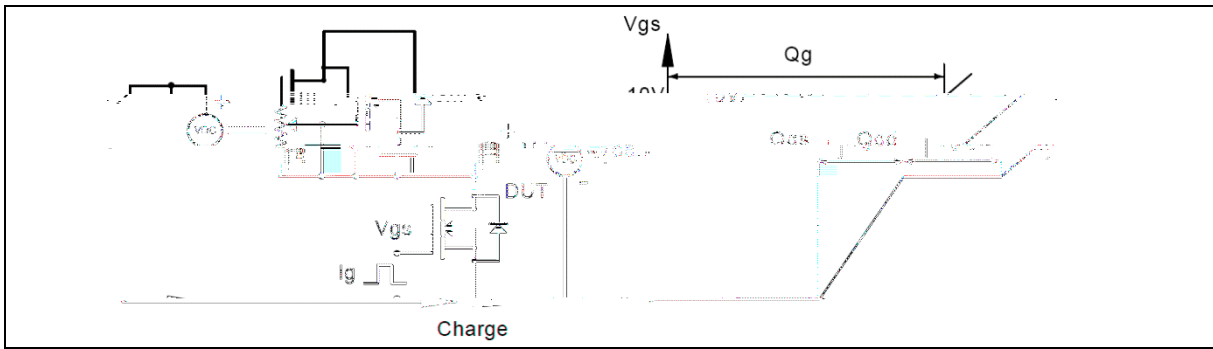


Figure 1. Gate charge test circuit & waveform

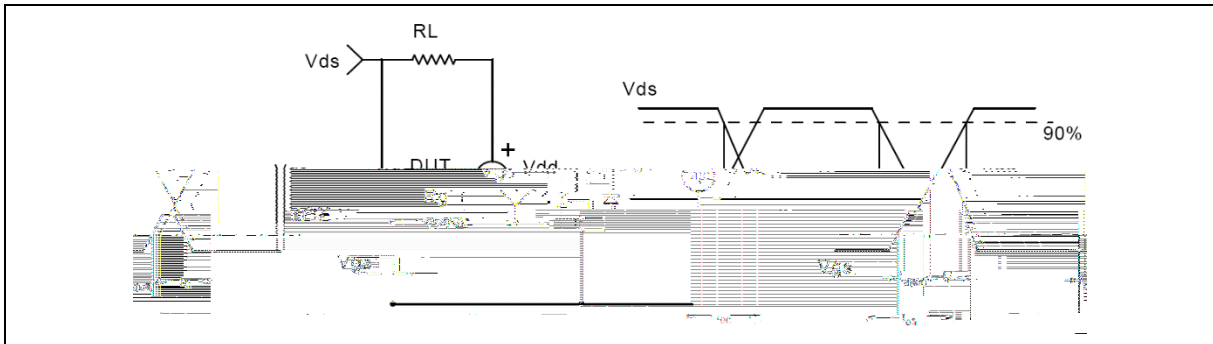


Figure 2. Switching time test circuit & waveforms

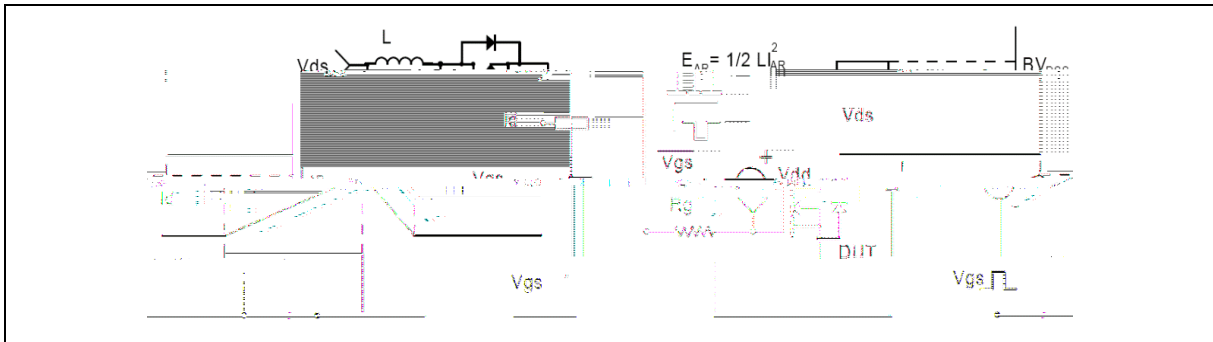


Figure 3. Unclamped inductive switching (UIS) test circuit & waveforms

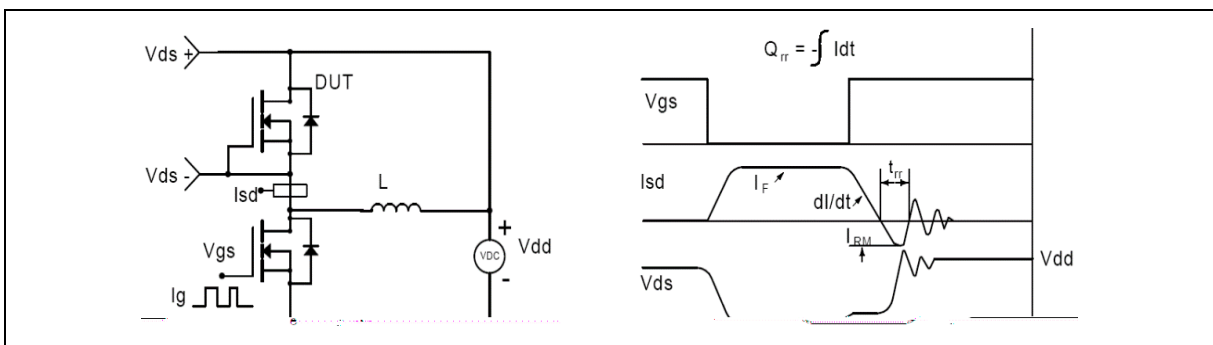
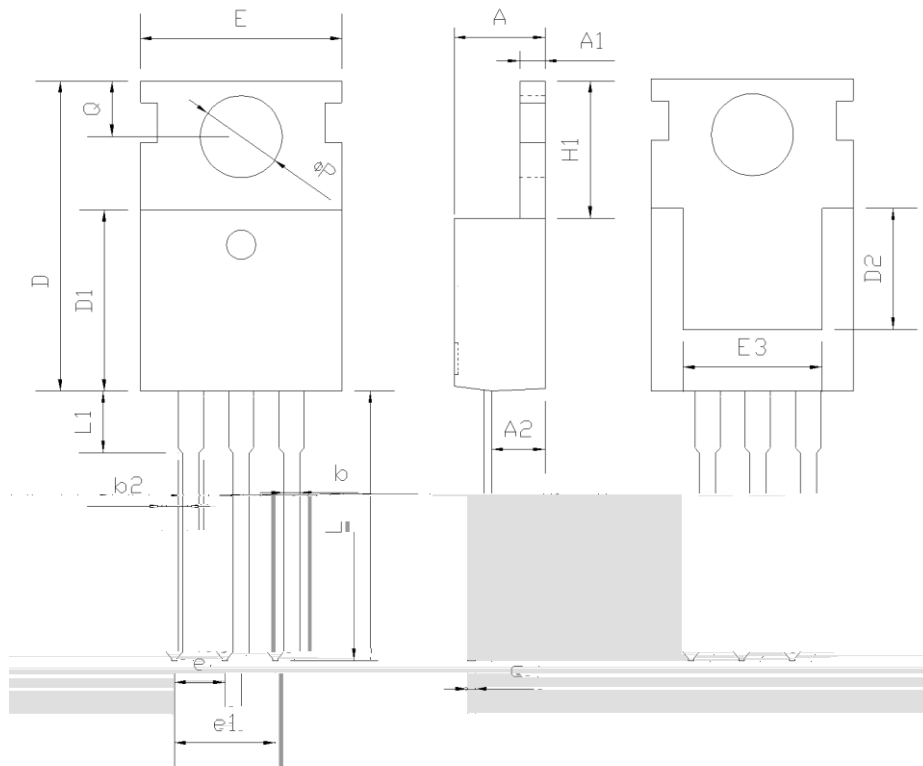


Figure 4. Diode reverse recovery test circuit & waveforms

Package Information



Symbol	mm		
	Min	Nom	Max
A	4.37	4.57	4.77
A1	1.25	1.30	1.45
A2	2.20	2.40	2.60
b	0.70	0.80	0.95
b2	1.17	1.27	1.47
c	0.40	0.50	0.65
D	15.10	15.60	16.10
D1	8.80	9.10	9.40
D2	5.50	-	-
E	9.70	10.00	10.30
E3	7.00	-	-
e	2.54 BSC		
e1	5.08 BSC		
H1	6.25	6.50	6.85
L	12.75	13.50	13.80
L1	-	3.10	3.40
	3.40	3.60	3.80
Q	2.60	2.80	3.00

Version 1: TO220-C package outline dimension

Package Information

Symbol	mm		
	Min	Nom	Max
A	4.40	4.50	4.60
A1	1.27	1.30	1.33
A2	2.30	2.40	2.50
b	0.70	-	0.90
b1	1.27	-	1.40

SFG130N10PF
Enhancement Mode N-Channel Power MOSFET 