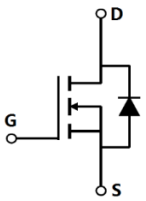
NABHJN HJNA@Q dh n ji JmdiogN hdji p cjmn pidlp qd ndbi cj cdq gjr M_{NJI} gjr b o c rnb a nonr odcdlb i s ggjio q gi c c m o mdhodn)Oc cdbc Q_{oc} n mdln dhnk dggj jkodhdu ajmcdbc ntno h nr odc b o mdqidlb qjgpb bm o mocc i , Q)

- Gjr M_{NJI} ! AJH
- @somh gj gjr nr odcdlb ginn
- @s ggjiomgd odgdt i pidajmhodt
- A nonr odcdlb i njaom jq mh

- Nr odc hj kjr mmpkkgj
- Hjcjm mdqjm
- = oo mh knjno odji
- - jiq mjm
- Solar inverter
- PKN i i mbt dlq mo m

Parameter	Value	Unit
$V_{DS,\ min}$ @ $T_{j(max)}$	100	V
$I_{D,\ pulse}$	390	A
$R_{DS(ON),\ max}$ @ V_{GS}=10V	5	h
Q_g	91.7	nC

Product Name	Package	Marking
SFG10R05FF	TO220F	SFG10R05F



Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		6388.6		pF	V_{GS}=0 V, V_{DS}=50 V, 8, HHz
Output capacitance	C_{oss}		923.3		pF	
Reverse transfer capacitance	C_{rss}		1.4		pF	
Turn-on delay time	$t_{d(on)}$		30.9		ns	V_{GS}=10 V, V_{DS}=50 V, R_G8- I_D=25 A
Rise time	t_r		10.0		ns	
Turn-off delay time	$t_{d(off)}$		66.8		ns	
Fall time	t_f		12.5		ns	

Gate Charge Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Total gate charge	Q_g		91.7		nC	V_{GS}=10 V, V_{DS}=50 V, I_D=25 A
Gate-source charge	Q_{gs}		23.7		nC	
Gate-drain charge	Q_{gd}		22.3		nC	
Gate plateau voltage	$V_{plateau}$		4.8		V	

1)

Body Diode Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Diode forward voltage	V_{SD}			1.3	V	I_S=20 A, V_{GS}=0 V
Reverse recovery time	t_{rr}		88.0		ns	I_S=25 A, d d8, n
Reverse recovery charge	Q_{rr}		273		nC	
Peak reverse recovery current	I_{rrm}		5.2		A	

Note

1) 1)Calculated continuous current based on maximum allowable junction temperature.

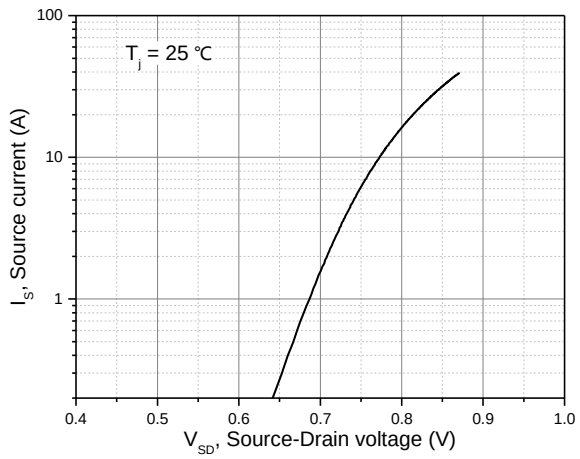


Figure 7. Forward characteristic of body diode

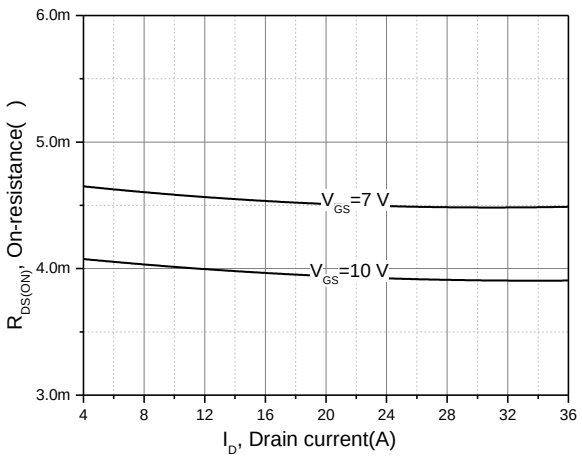


Figure 8. Drain-source on-state resistance

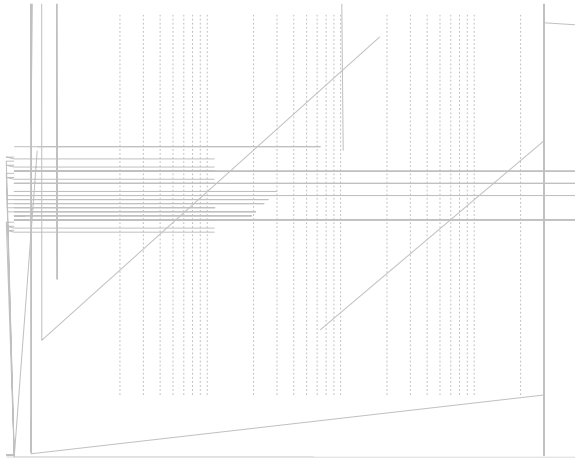


Figure 9. Safe operation area T_C=25 °C

Test circuits and waveforms

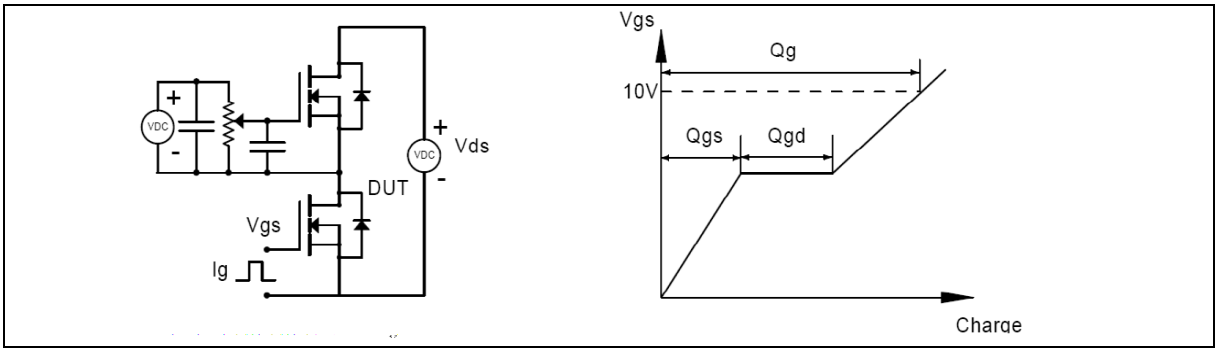


Figure 1. Gate charge test circuit & waveform

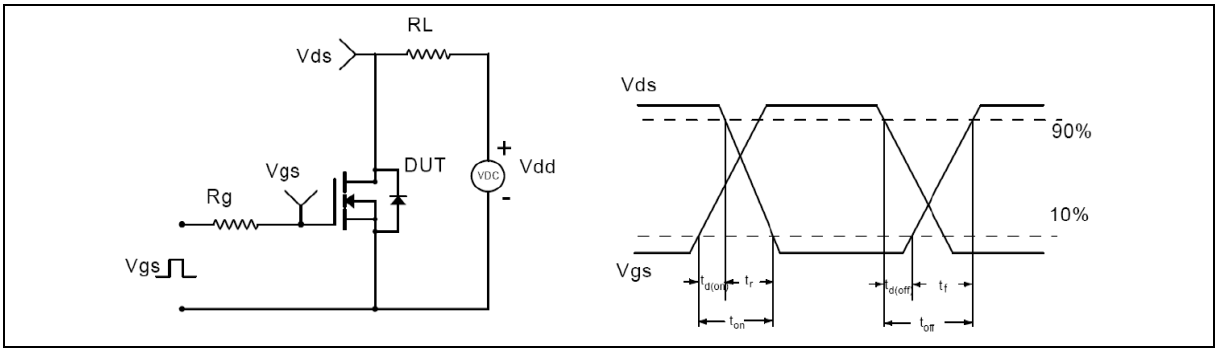


Figure 2. Switching time test circuit & waveforms

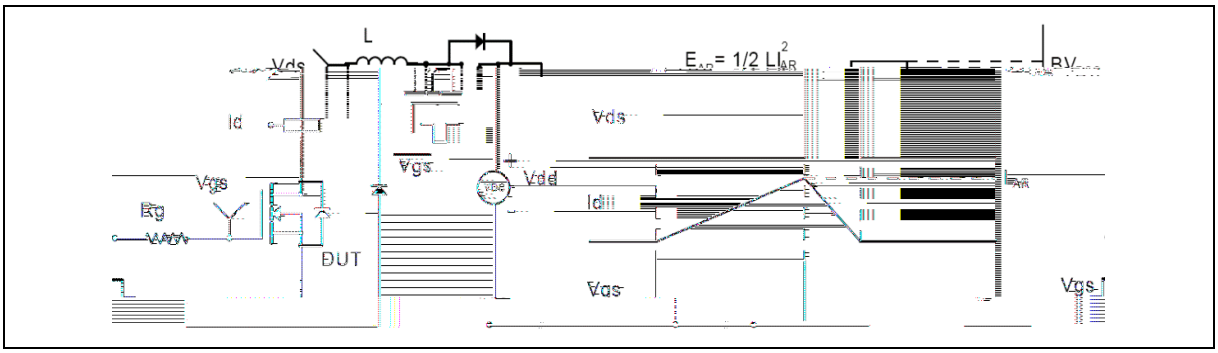


Figure 3. Unclamped inductive switching (UIS) test circuit & waveforms

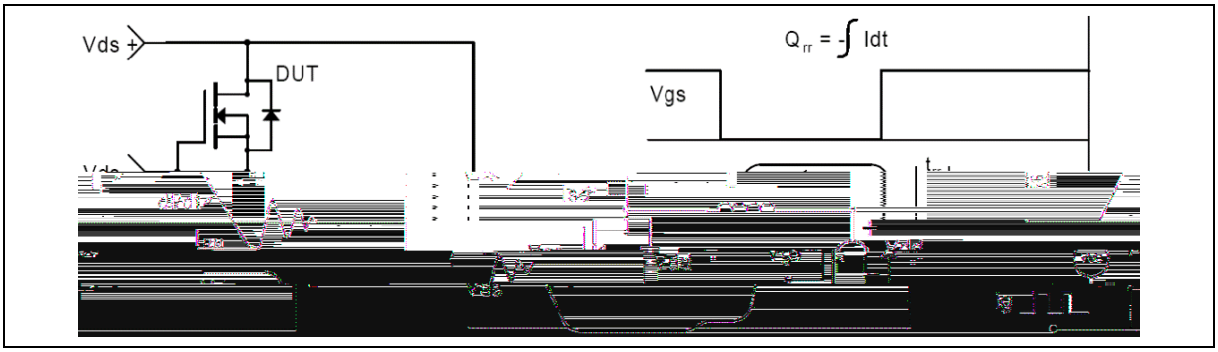
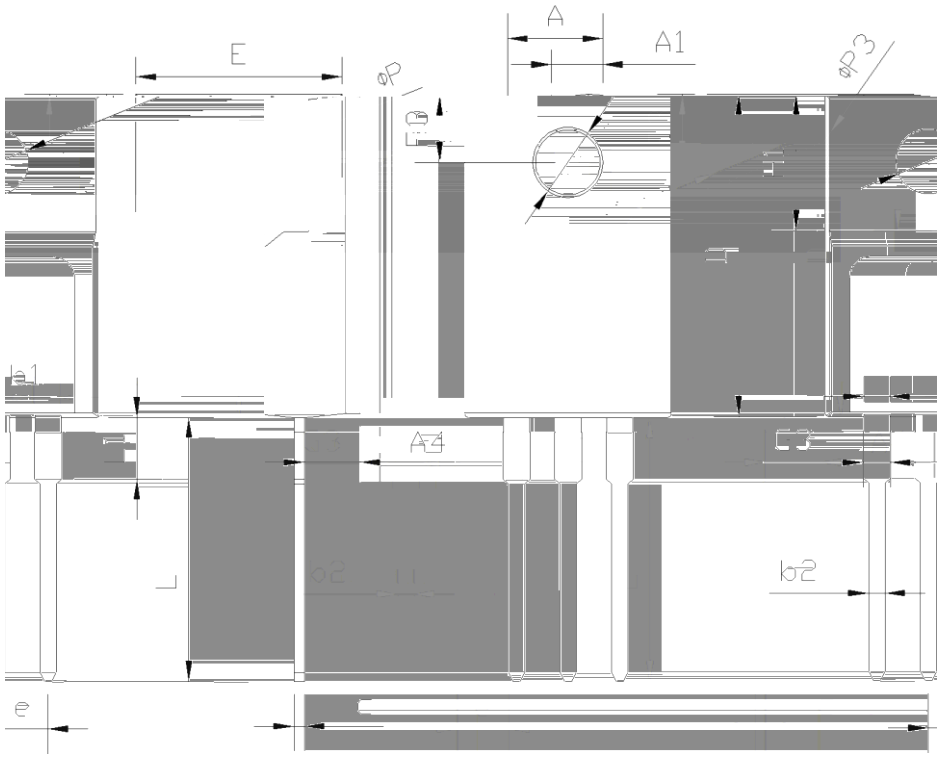


Figure 4. Diode reverse recovery test circuit & waveforms

Package Information



Symbol	mm		
	Min	Nom	Max
E	9.96	10.16	10.36
A	4.50	4.70	4.90
A1	2.34	2.54	2.74
A4	2.56	2.76	2.96
c	0.40	0.50	0.65
D	15.57	15.87	16.17
H1	6.70REF		
e	2.54BSC		
L	12.68	12.98	13.28
L1	2.88	3.03	3.18
K	3.03	3.18	3.38
K.	3.15	3.45	3.65
F3	3.15	3.30	3.45
G3	1.25	1.35	1.55
b1	1.18	1.28	1.43
b2	0.70	0.80	0.95

Version 1: TO220F-C package outline dimension