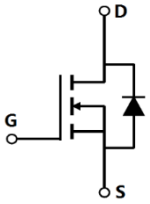
PCDJLP JLPCBQfp pbalkLdbkqiPbjflkar qlopr kfnrb absfb abpfdk qj efbsbilt $O_{APLK\&}$) ilt d dp e odb)c pqpt fq efkd ka bu biibkq s i k eb e o dpdpqf p Qeb efde S_{qp} pbdfbop fp pmb f iiv lmqfj fwba d oefde pvpdpj p t fqe d dp acfsfkd sl iq db ddb dpoqe k .-S

- Ilt $O_{APLK\&}$ CLJ
- Buqdbj biv ilt pt fq efkd ilpp
- Bu biibkqpq fifqv ka r kfd qj fqv
- C pqpt fq efkd ka pl oqdb lsbov

- Pt fq eba j l ab mlt bopr mmiv
- J l qloacfsbo
- qbpov mdb dp qflk
- A@A@ lksboqlo
- Solar inverter
- RMP ka bkbodv fksbodpo

Parameter	Value	Unit
$V_{DS,\ min}$ @ $T_{j(max)}$	80	V
$I_{D,\ pulse}$	840	A
$R_{DS(ON),\ max}$ @ V_{GS}=10V	2.6	j
Q_g	148.1	nC

Product Name	Package	Marking
SFG280N08PF	TO220	SFG280N08P



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}		10486		pF	V_{GS}=0 V, V_{DS}=50 V, : . MHz
Output capacitance	C_{oss}		2022		pF	
Reverse transfer capacitance	C_{rss}		19.9		pF	
Turn-on delay time	$t_{d(on)}$		39.5		ns	V_{GS}=10 V, V_{DS}=50 V, R_G=2.2) I_D=25 A
Rise time	t_r		27.5		ns	
Turn-off delay time	$t_{d(off)}$		73.3		ns	
Fall time	t_f		16.1		ns	

Gate Charge Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Total gate charge	Q_g		148.1		nC	V_{GS}=10 V, V_{DS}=50 V, I_D=25 A
Gate-source charge	Q_{gs}		36.5		nC	
Gate-drain charge	Q_{gd}		35.9		nC	
Gate plateau voltage	$V_{plateau}$		4.6		V	

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}		112		ns	V_R=50 V, I_S=25 A, af¡aq . - - , p
Reverse recovery charge	Q_{rr}		477.5		nC	
Peak reverse recovery current	I_{rrm}		6.9		A	

Note

1) Calculated continuous current based on maximum allowable junction temperature.
2) Repetitive rating; pulse width limited by max. junction temperature.
3) Pd is based on max. junction temperature, using junction-case thermal resistance.
4) The value of R $_G$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with T_a=25 °C.
5) V_{DD}=50 V,V_{GS}=10 V, L=0.3 mH, starting T_j=25 °C.

Electrical Characteristics Diagrams

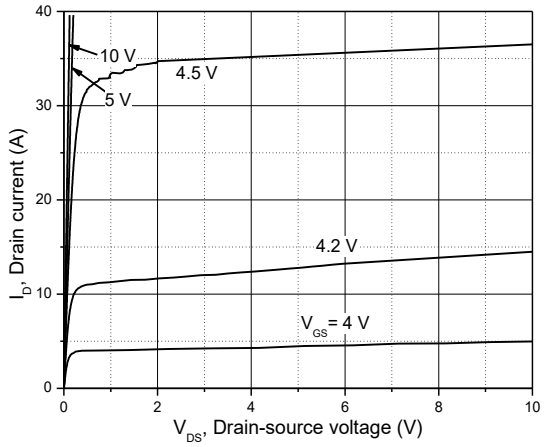


Figure 1. Typ. output characteristics

Figure 2. Typ. transfer characteristics

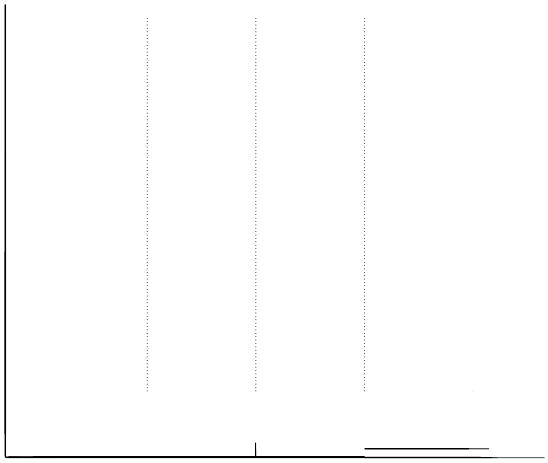


Figure 3. Typ. capacitances

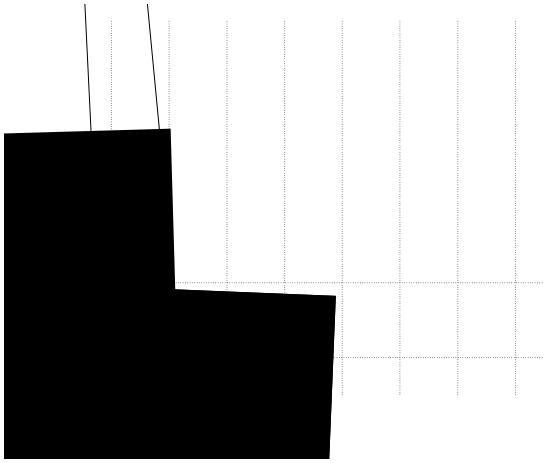


Figure 4. Typ. gate charge

Figure 5. Drain-source breakdown voltage

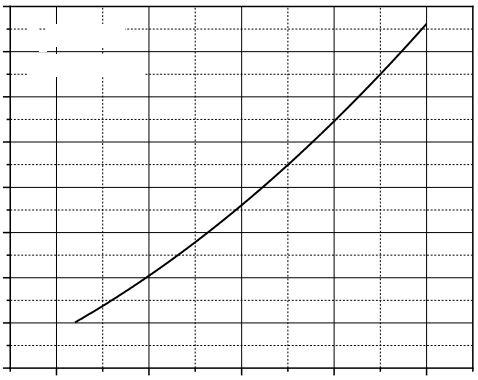


Figure 6. Drain-source on-state resistance

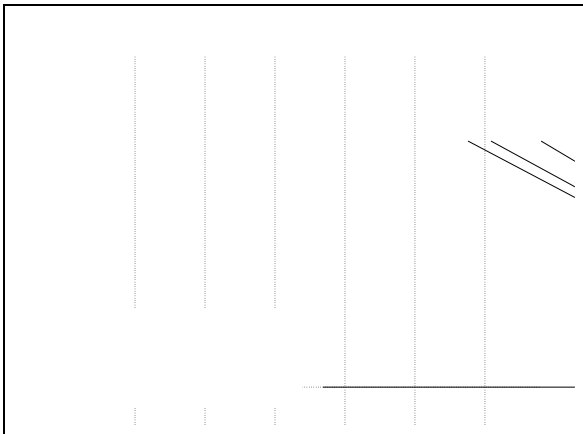


Figure 7. Forward characteristic of body diode

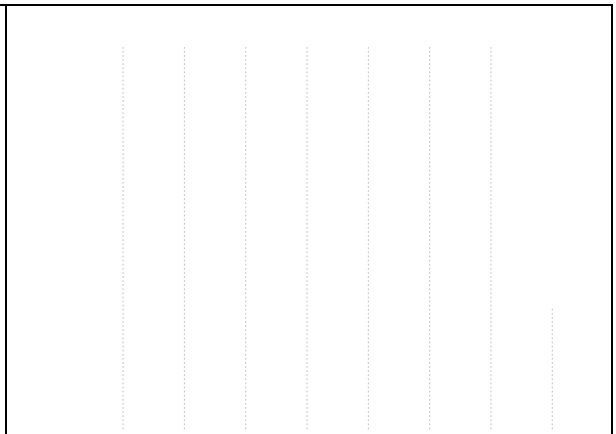


Figure 8. Drain current

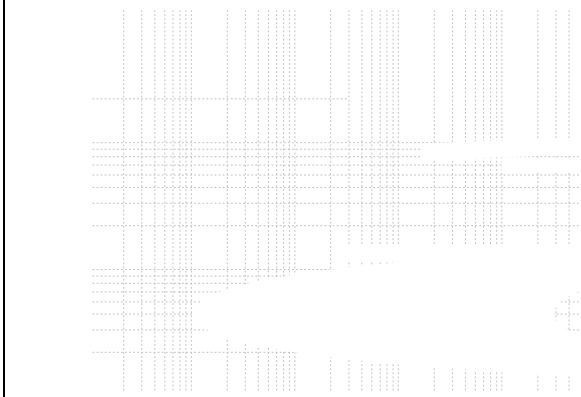


Figure 9. Safe operation area T_C=25 °C

Test circuits and waveforms

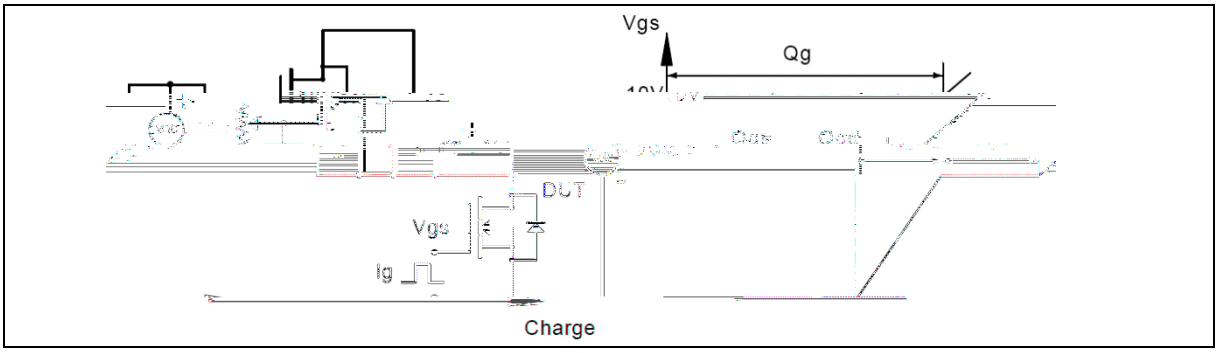


Figure 1. Gate charge test circuit & waveform

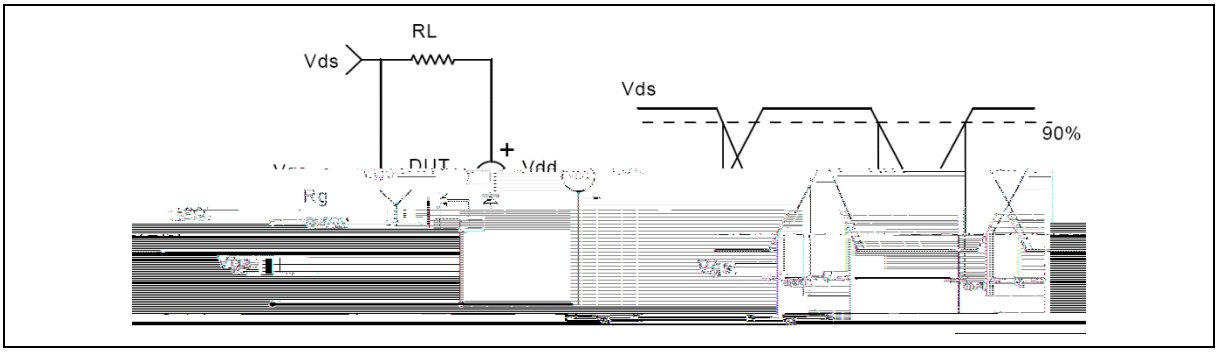


Figure 2. Switching time test circuit & waveforms

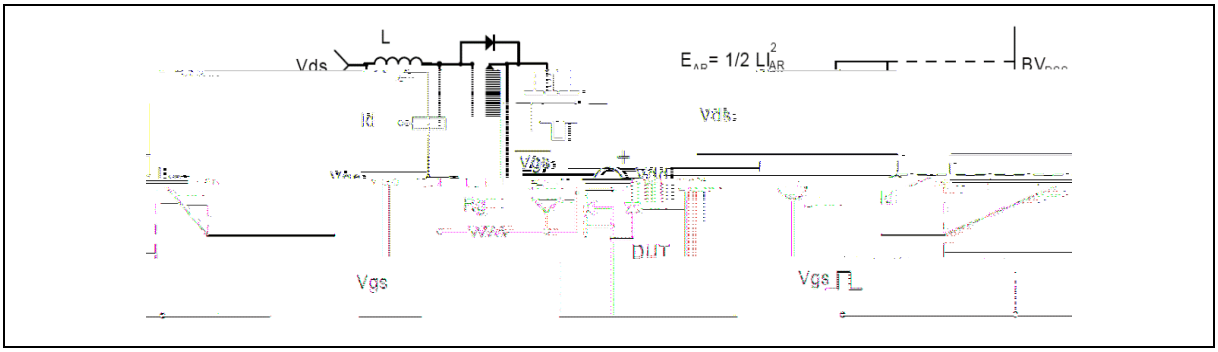


Figure 3. Unclamped inductive switching (UIS) test circuit & waveforms

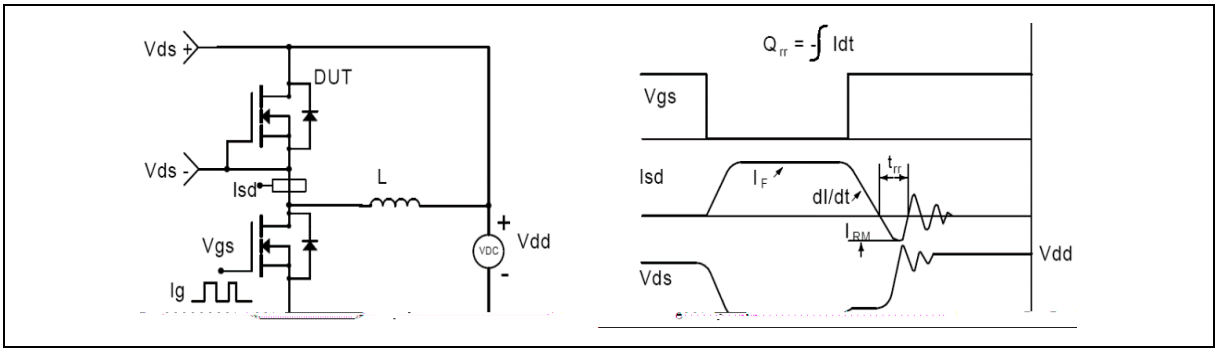
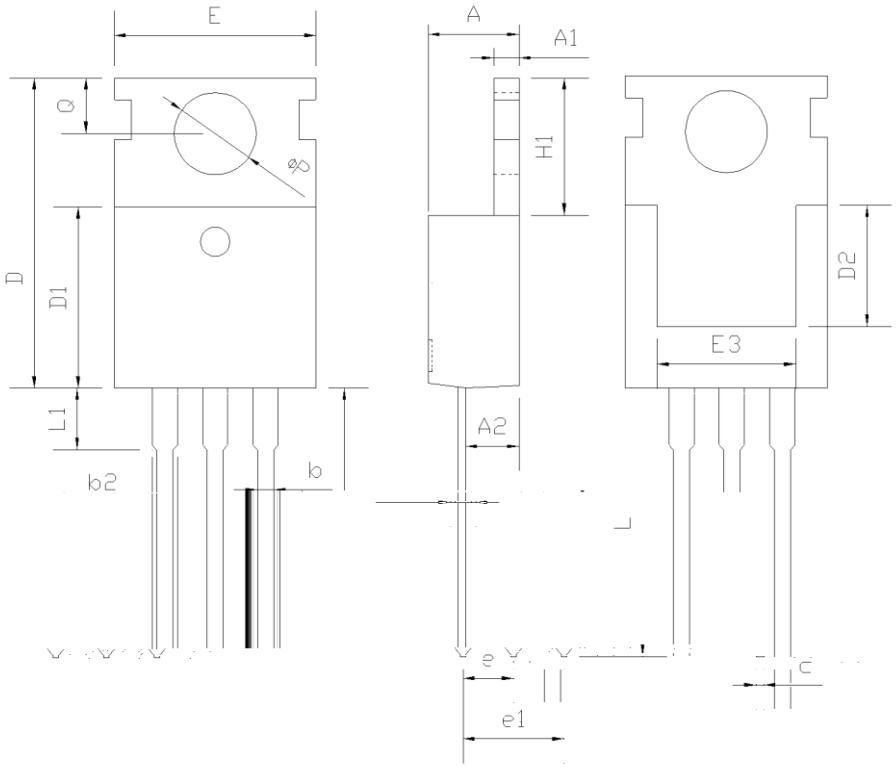


Figure 4. Diode reverse recovery test circuit & waveforms

Package Information



Symbol	mm		
	Min	Nom	Max
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
M	3.40	3.60	3.80
Q	2.60	2.80	3.00

Version 1: TO220-C package outline dimension

Ordering Information

Package Type	Units/ Tube	Tubes / Inner Box	Units/ Inner Box	Inner Boxes/ Carton Box	Units/ Carton Box
TO220-C	50	20	1000	6	6000

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
SFG280N08PF	TO220	yes	yes	yes

Qeb fkd oj qf k dfsbk fk qefp al r j bkqpe ii fk kl bsbkq b dod oaba p dr o kdpb l c l kafdf kp l o e o dpdpdf p T fqe dopmb q dj kv bu j mibp l o efkqp dfsbk ebdofk) kv qvmf i s irbp pq dpa ebdofk ka,l o kv fkd oj qf k dod oafkd qeb mmif qf k l cqeb absf b) L dbkq i Pbj f l kar dj oebdo v afp i fj p kv ka iit oo kdpbp ka if fifdpp l c kv hfka) fk ir afkd t fqel r qifj fq qf k)t oo kdpbp l ckl k-fkodkdbj bkql c fkdpiib qr i md mboqv ofdeqp l c kv qefoa m oqv

Cl o or oqebo fkd oj qf k l k dp ekl il dv) abifsbov dpoj p ka l kafdf kp ka mof bp) mib pb l kq qqeb L dbkq i Pbj f l kar dj op ibp domdbppbkq qfsbp t t t l dbkq ipbj f l j &