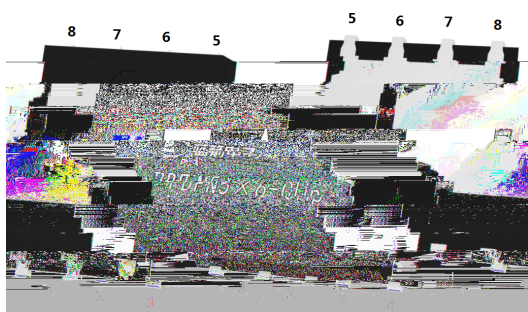
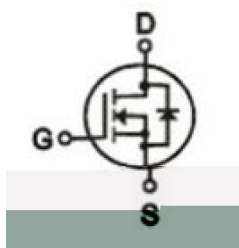


Rev.B Aug.-2025

SGIQ8Ø90F0ls Q
 N-Channel MOSFET in a PDFN5 × 6–Clip Plastic Package.

$V_{DS}(V)=150V$ $I_D=54A$
 $R_{DS(ON)}@10V<12.5m\Omega$ (TYP. 10.5m Ω)
 $R_{DS(ON)}@6V<18.5m\Omega$ (TYP. 16.5m Ω)
 HF Product.

GF 0 GF
 Motor drivers, DC - DC Converter.



PIN1 2 3 S PIN4 G PIN5 6 7 8 D

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	150	V
Drain Current*	$I_D(T_C=25^{\circ}\text{C})$	54	A
	$I_D(T_C=100^{\circ}\text{C})$	38	A
Drain Current – Pulsed**	I_{DM}	216	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation	$P_D(T_C=25^{\circ}\text{C})$	93	W
Diode Forward Current	$I_S(T_C=25^{\circ}\text{C})$	54	A
Single Pulse Avalanche Energy(L=1.0mH)	E_{AS}	450	mJ
Junction and Storage Temperature Range	T_j, T_{stg}	-55 to 175	$^{\circ}\text{C}$
Thermal resistance, junction – ambient*	$R_{\theta JA}$	59	$^{\circ}\text{C/W}$
Thermal resistance, junction – case*	$R_{\theta JC}$	1.6	$^{\circ}\text{C/W}$

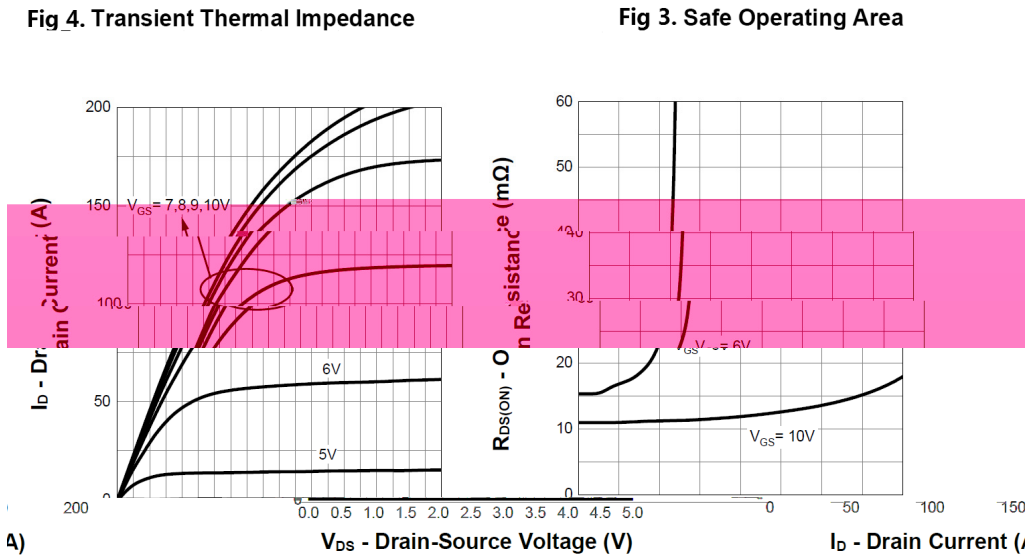
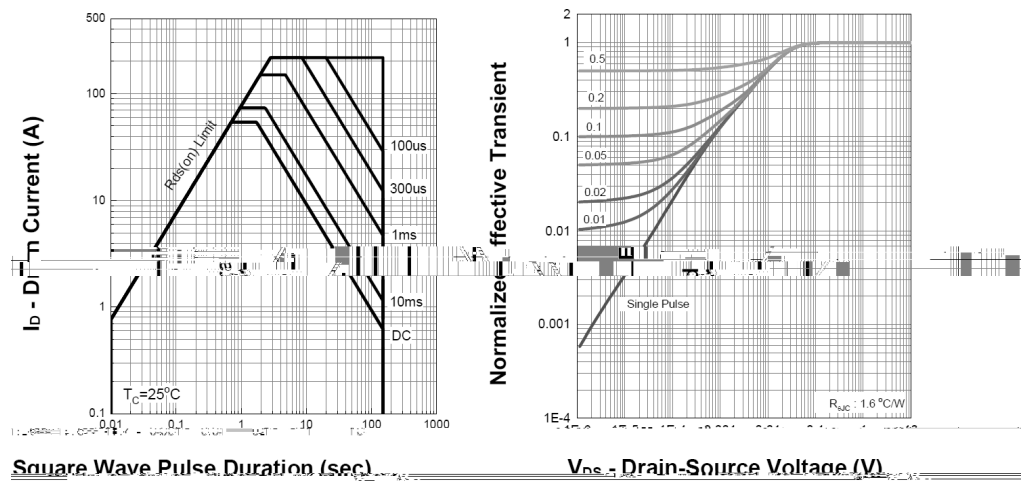
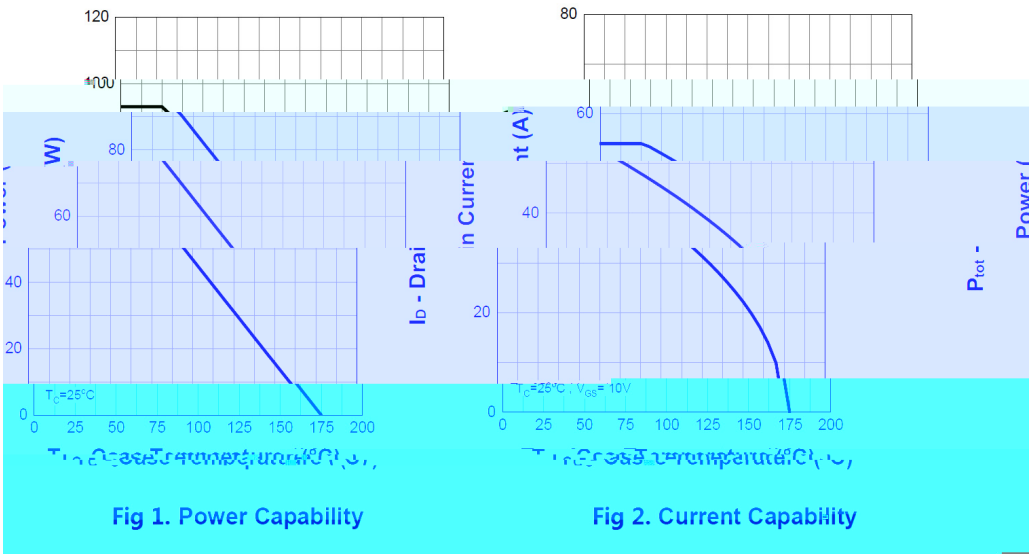
Note:

 *: Surface Mounted on 1 in2 pad area, $t \leq 10 \text{ sec}$

 **: Pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2 \%$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	150			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=120\text{V}, V_{GS}=0\text{V}$			1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	2		4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=30\text{A}$		10.5	12.5	$\text{m}\Omega$
		$V_{GS}=6\text{V}, I_D=20\text{A}$		16.5	18.5	
Diode Forward Voltage	V_{SD}	$I_{SD} = 30 \text{ A}, V_{GS} = 0 \text{ V}$			1.3	V
Reverse Recovery Time	t_{rr}	$I_{DS} = 30 \text{ A}, V_{GS} = 0 \text{ V}$ $dI_{SD}/dt = 100 \text{ A}/\mu\text{s}$		77		nS
Reverse Recovery Charge	Q_{rr}			237		nC
Input Capacitance	C_{iss}	$V_{DS}=75\text{V} \quad V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		1548		pF
Output Capacitance	C_{oss}			227		
Reverse Transfer Capacitance	C_{rss}			14		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	$V_{GS}=10V, \quad V_{DS}=75V,$ $I_D=30A$		23		nC
Gate Source Charge	Q_{gs}			10		
Gate Drain Charge	Q_{gd}			4		
Turn-On Delay Time	$t_{d(on)}$	$V_{GEN}=10V, \quad V_{DS}=75V,$ $R_L=2.5\Omega, \quad R_G=3.9\Omega$ $I_{DS}=30A$		13		ns
Turn-On Rise Time	t_r			21		
Turn-Off Delay Time	$t_{d(off)}$			27		
Turn-Off Fall Time	t_f			15		



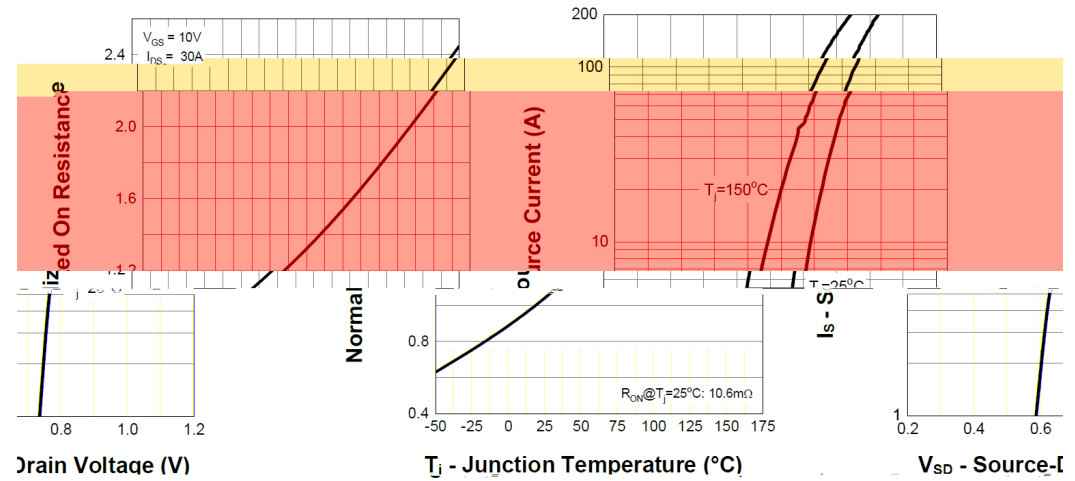
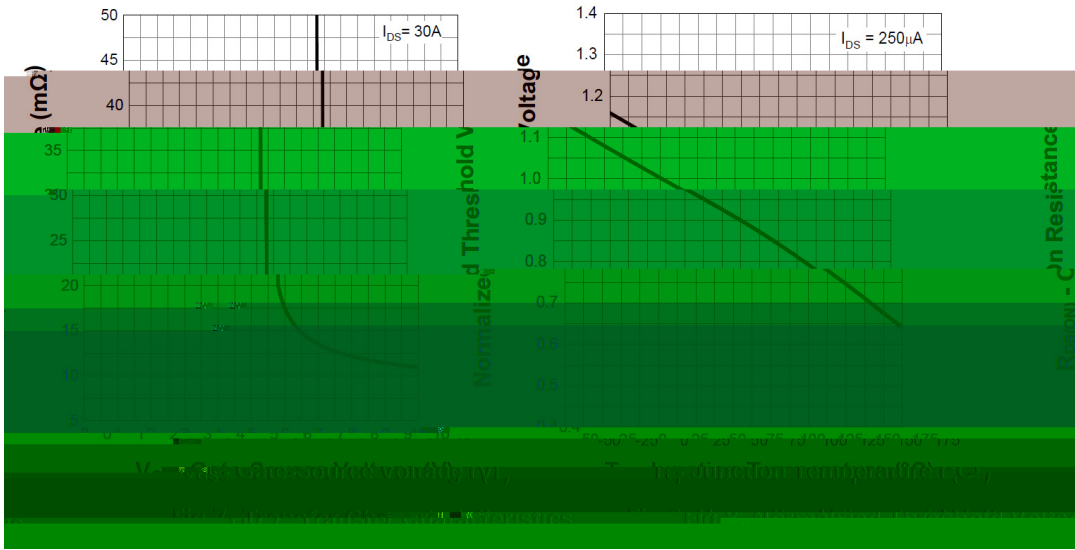
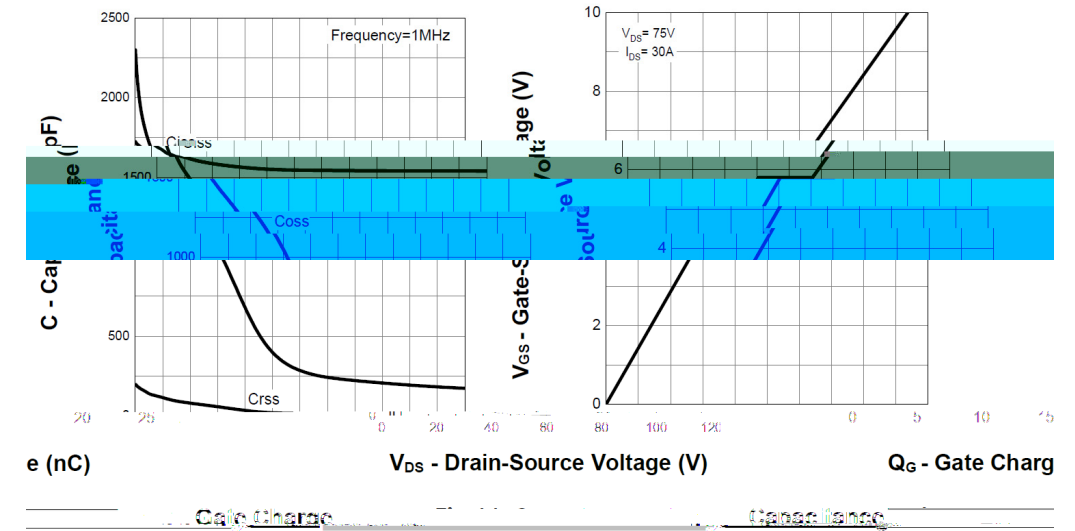
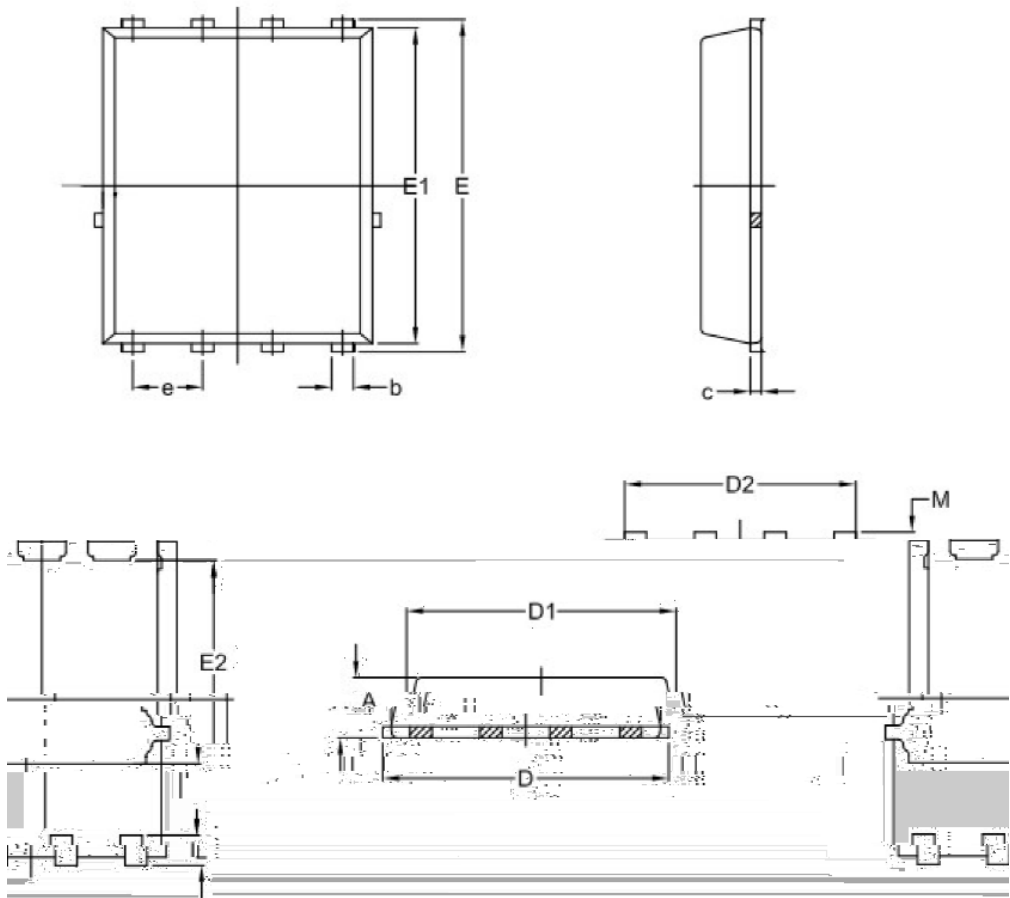


Fig 10. Diode Forward Current

Fig 9. Normalized On Resistance





SYMBOL	Dimension in mm	
	MIN.	MAX.
A	0.9	1.2
b	0.3	0.51
c	0.11	0.35
D	4.7	5.35
D1	4.7	5.35
D2	3.7	4.4
1.37 / 6.25	e	1.17 / 5.75
6	E	5.6
3.9	E1	3.18
0.71	E2	0.35
0.71	L	0.35
	M	0.35



EU

120N15SH

Note

BR

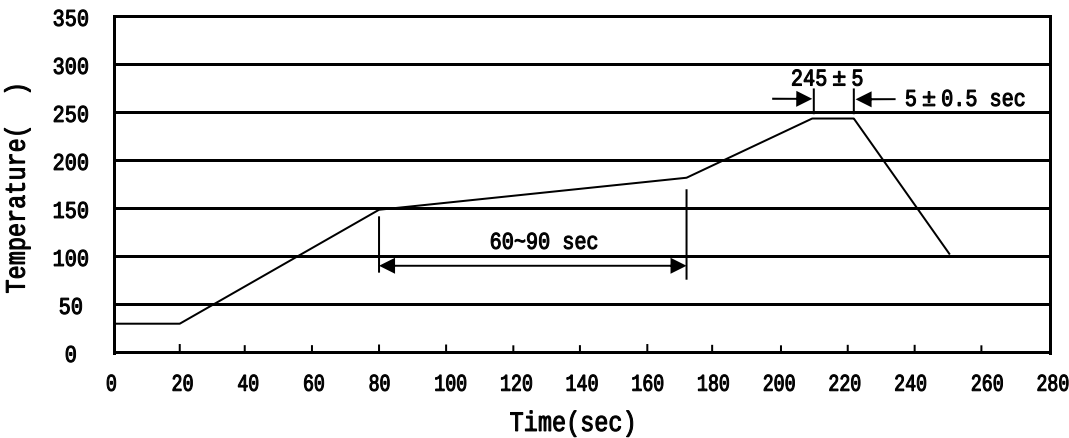
Company Code

120N15SH

Product Type Code

****.

Lot No. Code, code change with Lot No.



Note:

- 1

150 180%

60 90sec;

1.Preheating:150~180%, Time:60~90sec.
- 2

245 ± 5%

5 ± 0.5sec;

2.Peak Temp.:245 ± 5%, Duration:5 ± 0.5sec.
- 3

2 10%/sec.

3. Cooling Speed: 2~10%/sec.

260 ± 5%

10 ± 1 sec.

Temp.:260±5

Time:10±1 sec

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel 2	Reels/Inner Box 2	Units/Inner Box 2	Inner Boxes/Outer Box 2	Units/Outer Box 2	Reel	Inner Box	Outer Box
PDFN5×6-Clip	5000	2	10000	6	60000	13"×12	360×360×50	380×335×366

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