SGIQ8Ö90F0Is ṂĿ Q ǚ ʆ ῷ Ẕ ߁
N-Channel MOSFET in a PDFN5 × 6–Clip Plastic Package.

V_{DS}(V)=150V I_D=54A
$R_{DS(ON)}$@10V<12.5mΩ(TYP. 10.5mΩ)
$R_{DS(ON)}$@6V<18.5mΩ(TYP. 16.5mΩ)
ῆ ғ ᵝ HF Product.

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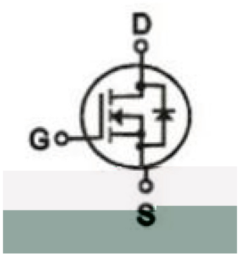
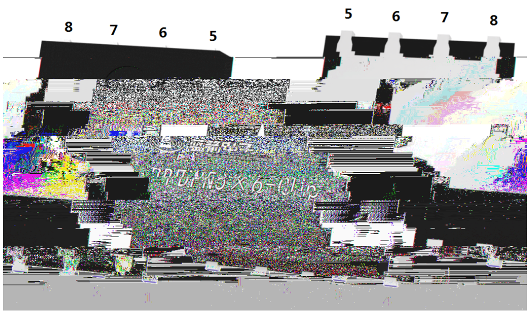
Motor drivers, DC - DC Converter.





PIN1 2 3 S PIN4 G PIN5 6 7 8 D

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See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	150	V
Drain Current*	I_D(Tc=25 ł)	54	A
	I_D(TC=100 ł)	38	A
Drain Current – Pulsed**	I_{DM}	216	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation	$P_D(T_c=25$)	93	W
Diode Forward Current	$I_S(T_c=25$)	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	ł
Thermal resistance, junction – ambient*	$R_{\theta JA}$	59	/ W
Thermal resistance, junction – case*	$R_{\theta JC}$	1.6	/ W

Note:

*: Surface Mounted on 1 in2 pad area, t ≤ 10 sec

**: Pulse width ≤ 300 μs, duty cycle ≤ 2 %

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

ν Ω̤ Parameter	Ɏ ᴺ Symbol	╜ ፡ᷱ Ţ Test Conditions	ῳ ṇ Ӫ Min	Ɛ ʒ Ӫ Typ	ῳ ᶻ Ӫ Max	ᴅ ȟ Unit
Total Gate Charge	Q_g	V_{GS}=10V, 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, V_{DS}=75V, R_L=2.5Ω, R_G=3.9Ω 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		

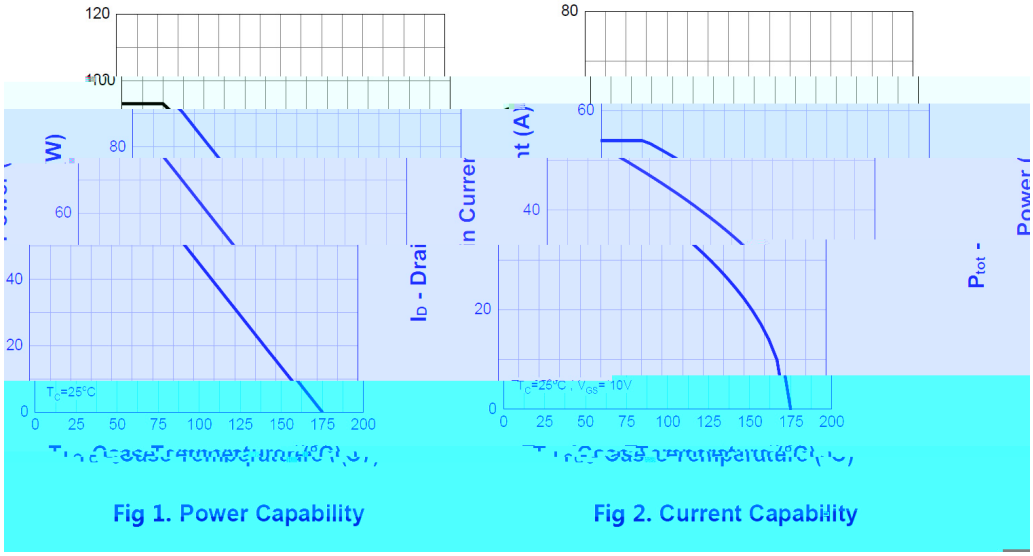


Fig 1. Power Capability

Fig 2. Current Capability

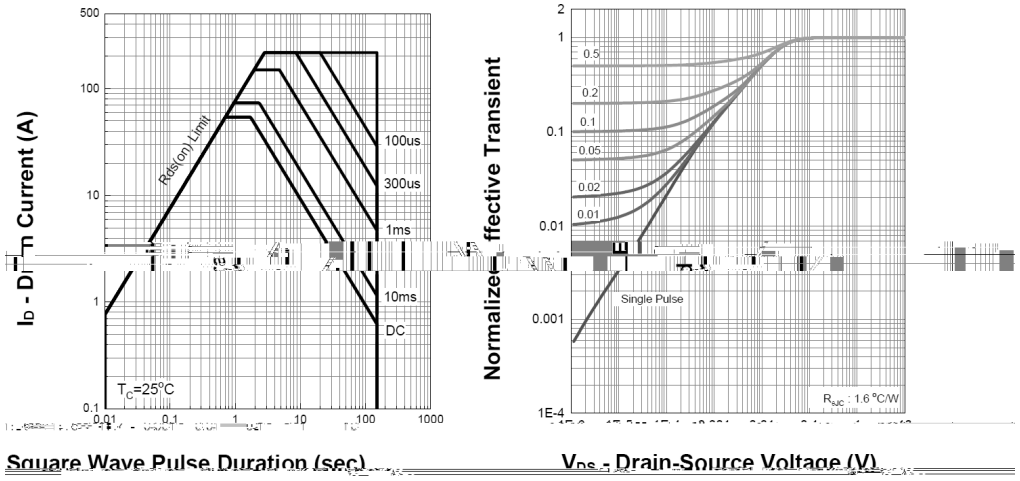


Fig 4. Transient Thermal Impedance

Fig 3. Safe Operating Area

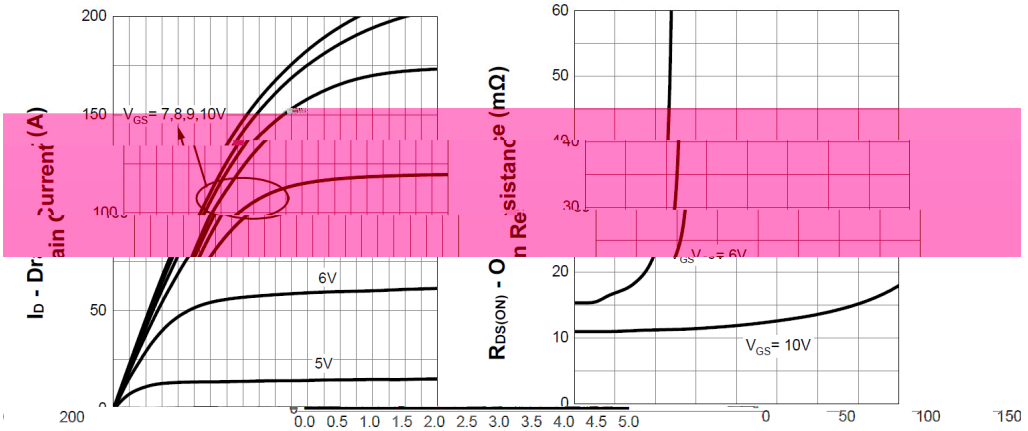
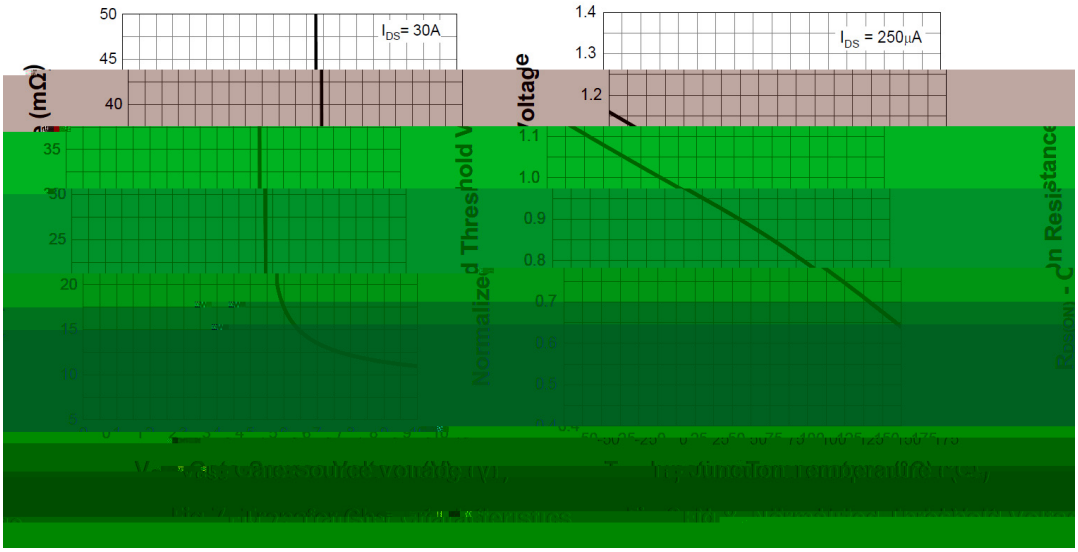


Fig 5. Output Characteristics

Fig 6. On Resistance



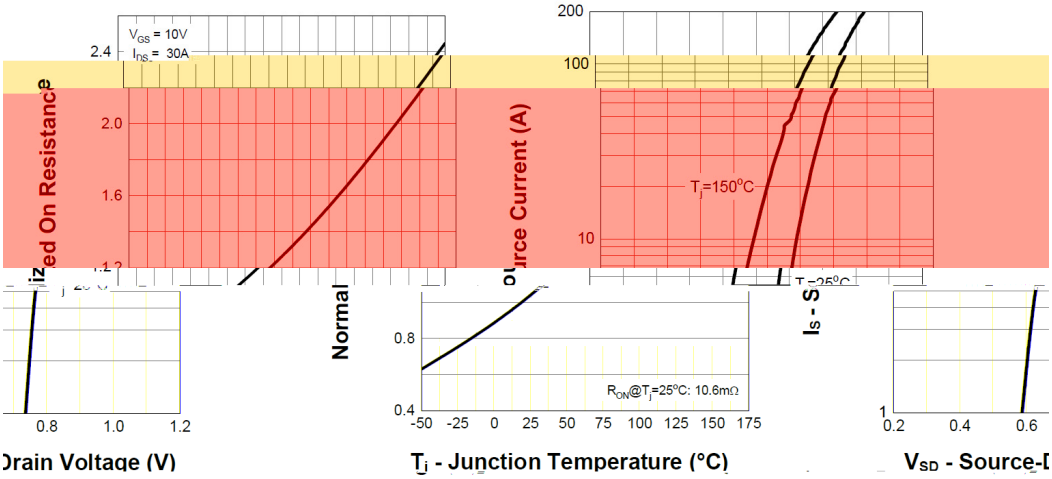
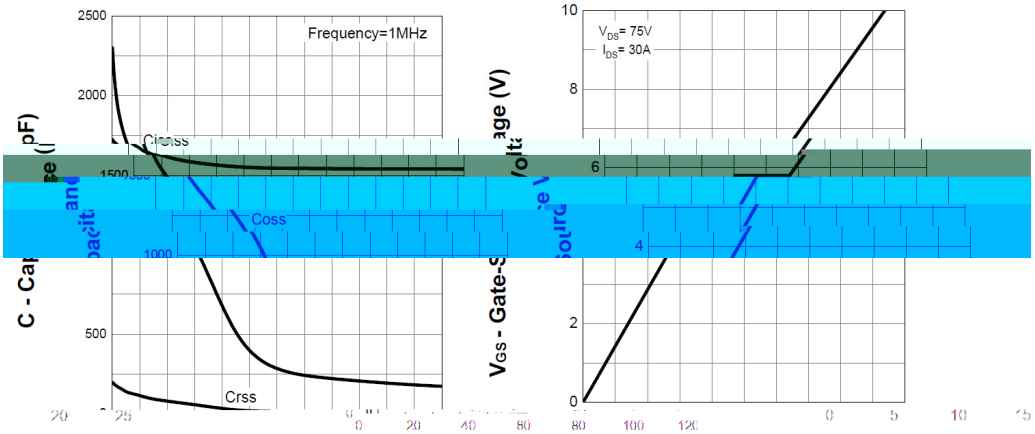
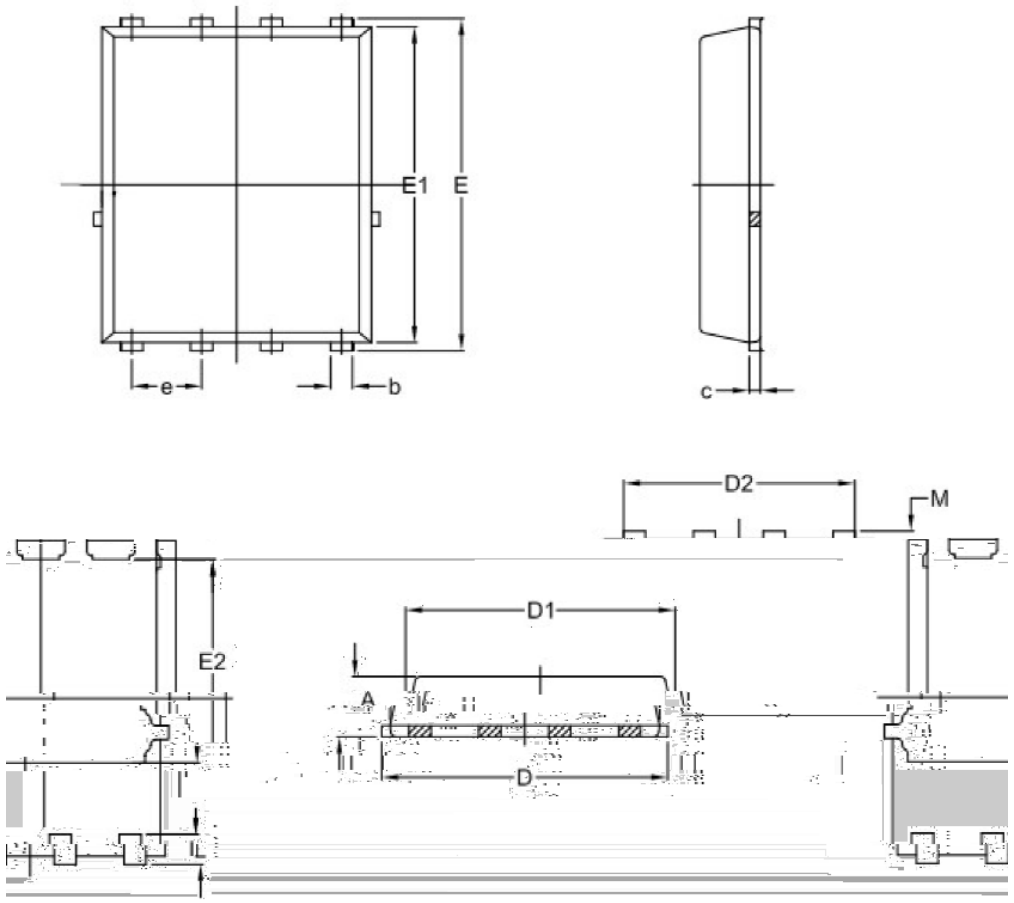


Fig 10. Diode Forward Current

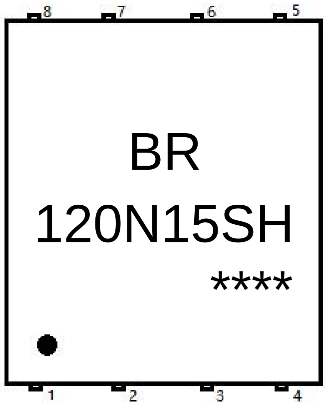
Fig 9. Normalized On Resistanc



Gate Charge Capacitance



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	e	1.17
6.25	E	5.75
6	E1	5.6
3.9	E2	3.18
0.71	L	0.35
0.71	M	0.35



ب ˝ χ

EU χ ㅢ ϡ ᴎ ᥰ

120N15SH χ ㅢ Ʒ ᴺ ᥰ

---- χ ㅢ ꟷ ғ ἢ ᴺ ᥰ ꟾ ȩ ꟷ ғ ἢ ᴺ ψ ק

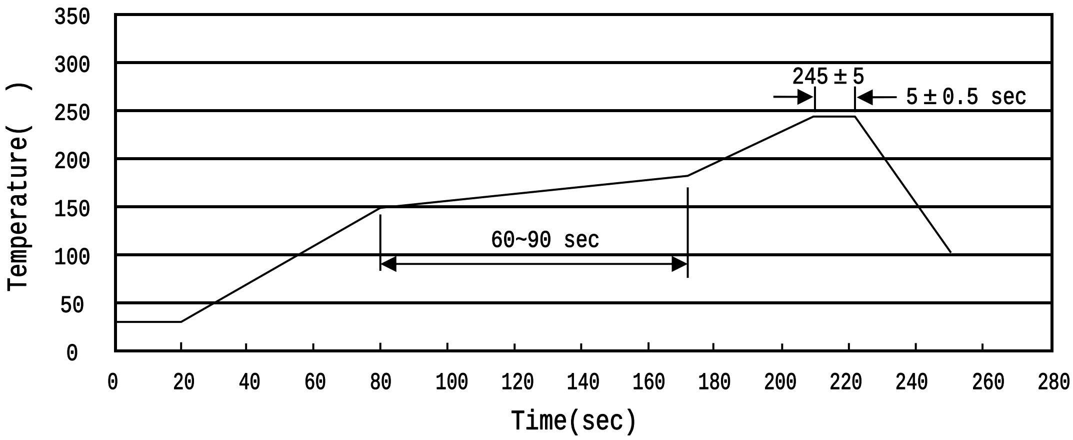
Note χ

BR χ Company Code

120N15SH χ Product Type Code

****: Lot No. Code, code change with Lot No.

Rev.B Aug.-2025



ب ˝ χ

1 ỉ ♬ □ ỷ 150 Ḱ 180 ɫ ı `H ڗ 60 Ḱ 90sec;

2 Ś Ɵ □ ỷ 245°5 ɫ ı `H ڗ 'Y ϰ ʚ 5°0.5sec;

3 ì ˙ Ϡ ˛ ͻ ൠ ỷ ʚ 2 Ḱ 10 ɫ /sec.

Note:

1.Preheating:150~180 ɫ , Time:60~90sec.

2.Peak Temp.:245°5 ɫ , Duration:5°0.5sec.

3. Cooling Speed: 2~10 ɫ /sec.

□ ỷ χ 260°5 ɫ `H ڗ χ 10°1 sec.

Temp.:260±5 Time:10±1 sec

ია` γ Ŀ / REEL

Package Type Ṃ Ŀ ẻ Ằ	Units					Dimension		(unit mm³)
	Units/Reel ᴱ 2 ია`	Reels/Inner Box ია` 2 ¨	Units/Inner Box ᴱ 2 ¨	Inner Boxes/Outer Box ¨ 2 ϡ	Units/Outer Box ᴱ 2 ϡ	Reel	Inner Box ¨	Outer Box ϡ
PDFN5×6-Clip	5000	2	10000	6	60000	13"×12	360×360×50	380×335×366

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