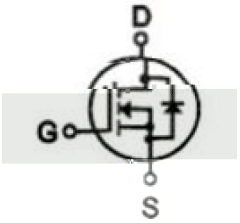
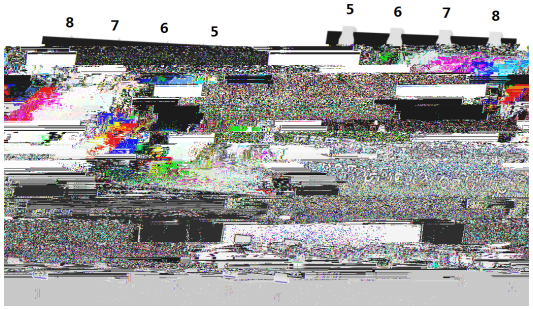
SGIQ8Ö90F0Is Ṃ Ь Q ڜ ʃ ѽ Ẕ ᒣ
N-Channel MOSFET in a PDFN5h 6–Clip Plastic Package.

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

ɔ ɨ ʊ ʰ ı GF 0 GF ჟ Ѿ ʰ
Motor drivers, DC - DC Converter.





PIN1Ã 2Ã 3Ö S PIN4Ö G PIN5

ÃØ / Absolute Maximum Ratings(T_a=25;)

v ˝Ω Parameter	٩ N Symbol	˝Ω Ö Rating	D Ч Unit
Drain-Source Voltage	V_{DS}	150	V
Drain Current*	I_D(T_C=25 ł)	54	A
	I_D(TC=100 ł)	38	A
Drain Current – Pulsed**	I_{DM}	216	A
Gate-Source Voltage	V_{GS}	f 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© JA	59	/ W
Thermal resistance, junction – case*	R© JC	1.6	/ W

Note:

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

**: Pulse width ” 300 s, duty cycle ” 2 %

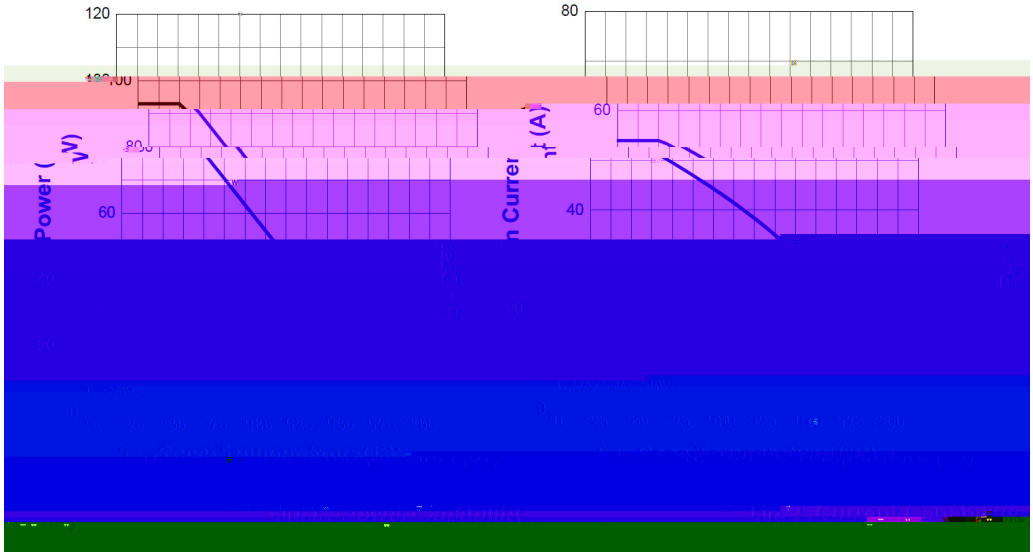
Œ / Electrical Characteristics(Ta=25;)

v ˝Ω Parameter	٩ N Symbol	╨ :ˆ Ţ Test Conditions	ω ņ Ö Min	Ɛ ʒ Ö Typ	ω ᶻ Ö Max	D Ч 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/ s		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		

6 / Electrical Characteristics(Ta=25;)

Parameter	Symbol	Test Conditions	Min	Typ	Max	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=2.5Ý, R_G=3.9Ý 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		

典型 / Electrical Characteristic Curve



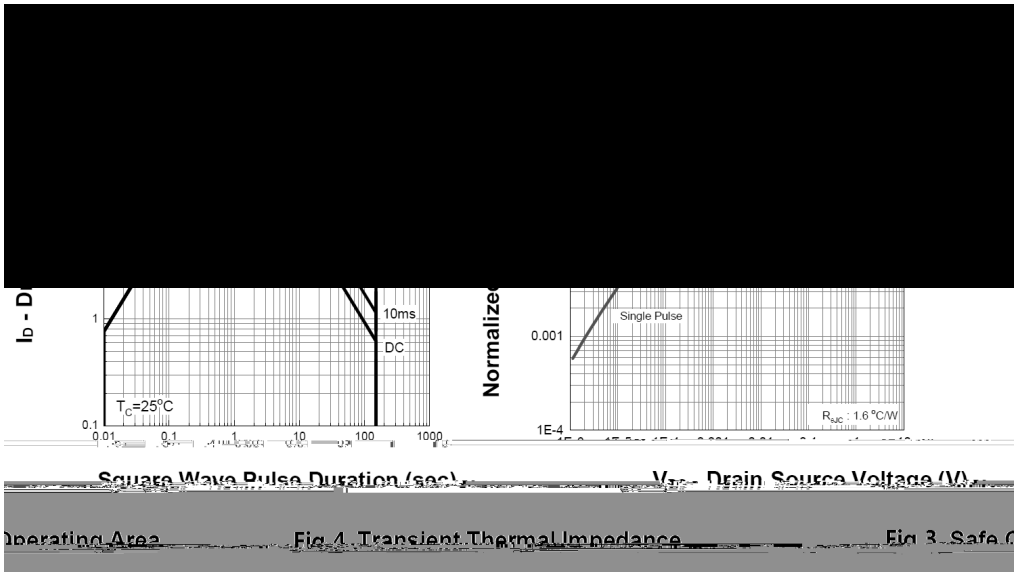


Fig 4. Transient Thermal Impedance

Fig 3. Safe Operating Area

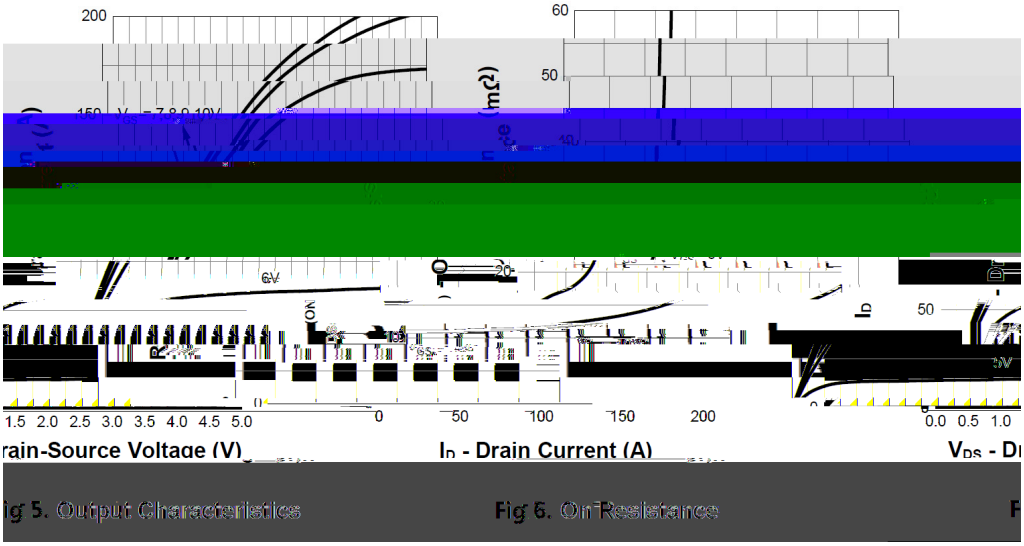
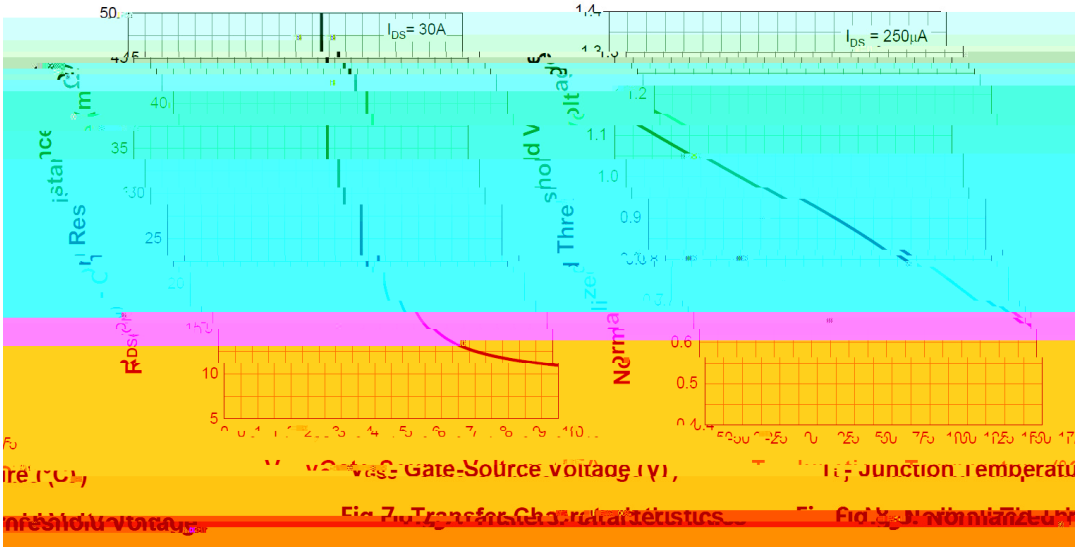
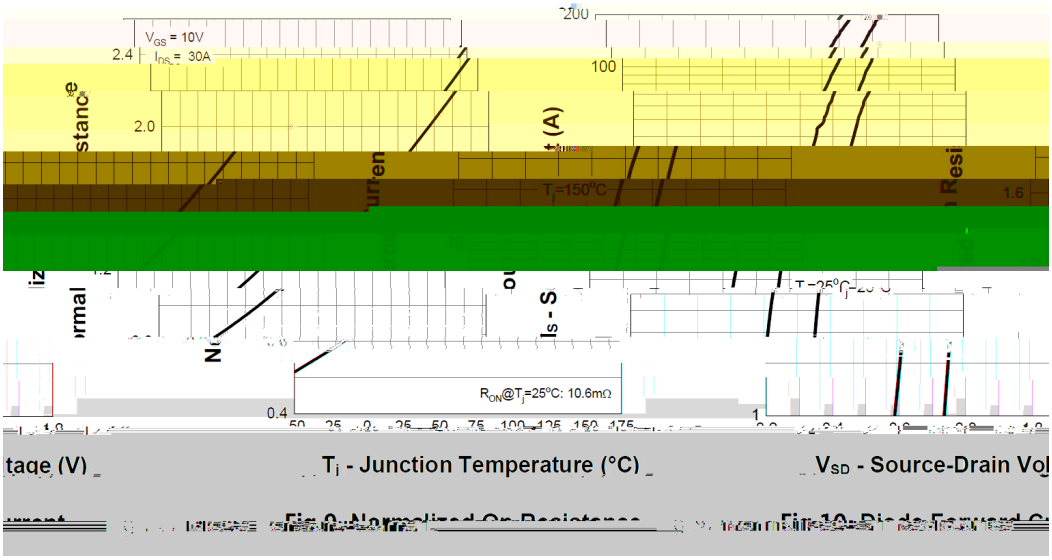


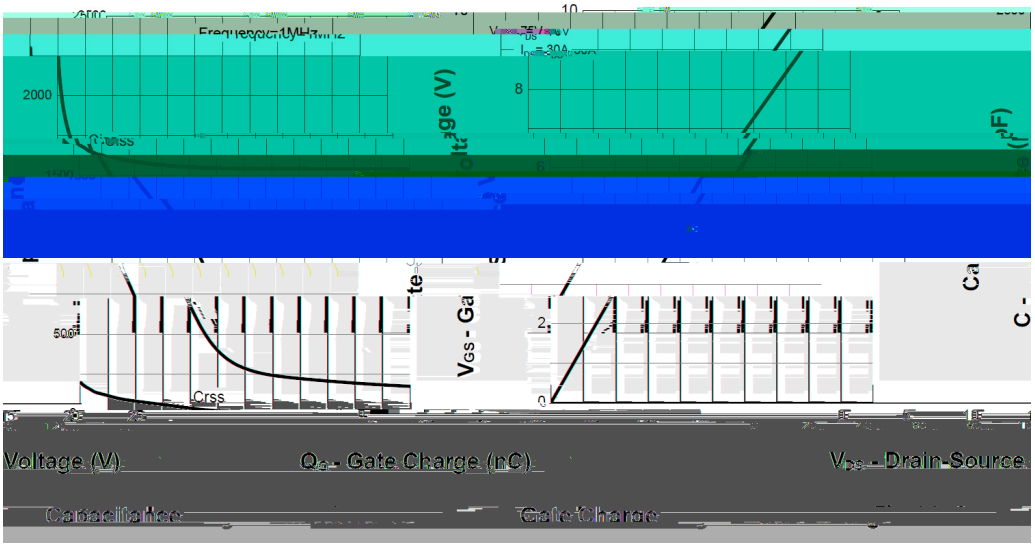
Fig 5. Output Characteristics

Fig 6. On-Resistance

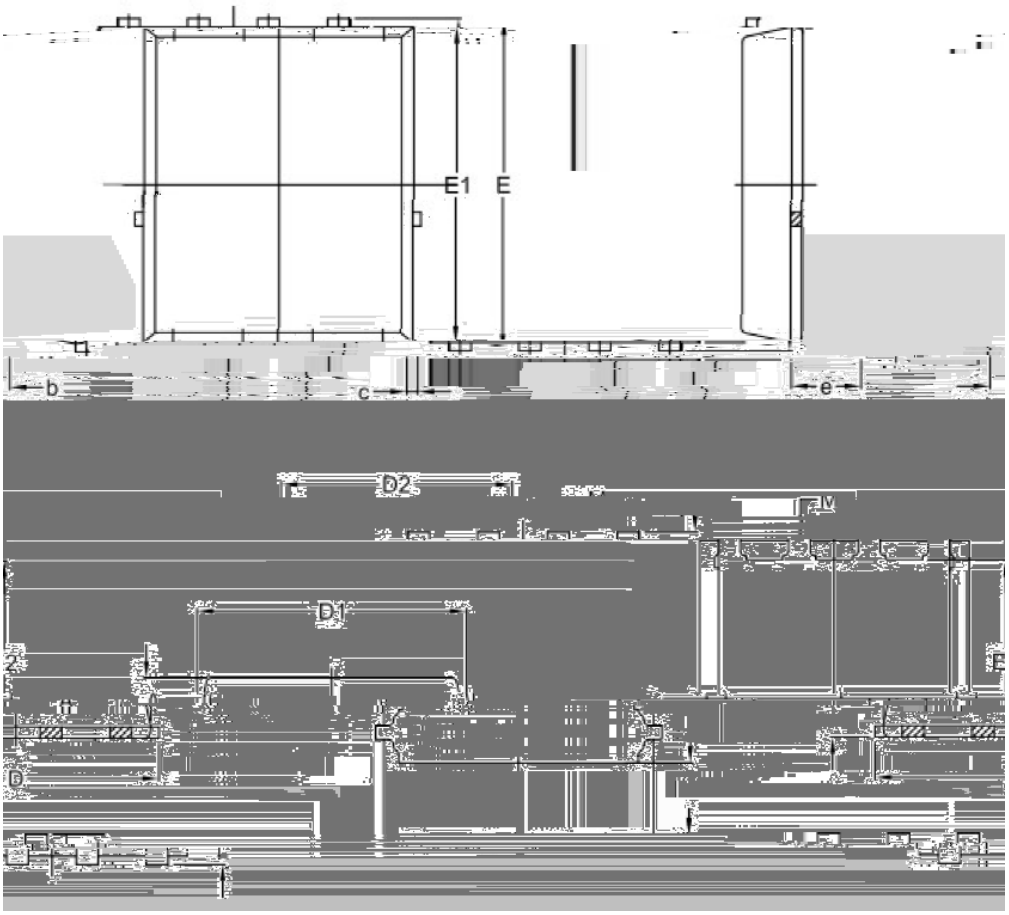
典型 / Electrical Characteristic Curve







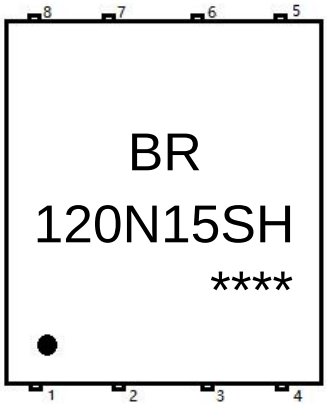
封装尺寸 / Package Dimensions



SYMBOL	MIN	MAX
A	0.9	1.2
b	0.3	0.51
c	0.11	0.35
D	4.7	5.35
D1	4.1	4.5
D2	3.7	4.4
E	5.75	6.25
E1	5.6	6
E2	3.18	3.9
L	0.35	0.71

0.71 M 0.35

,My ƒ / Marking Instructions



ِ ˜ χ

EU χ ѭ ϗ И Ђ

120N15SH χ ѭ ϓ N Ђ

---- χ ѭ ѓ ғ ў N Ђ ѓ ѓ ғ ў N Ψ ϙ

Note χ

BR χ Company Code

120N15SH χ Product Type Code

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

¥WDtŽ. (x/) / Temperature Profile for IR Reflow Soldering(Pb-Free)



ب ˝ χ

1 Ĺ♬ □ ỷ 150Ḱ180 ł ı `H ڑ 60Ḱ90sec;

2 Š Ö □ ỷ 245°5 ł ı `H ڑ 'Y ﾊ ㎞ 5°0.5sec;

3 ì ˙ ﾘ ¸ ɔ ﾑ ỷ ㎞ 2Ḱ10 ł /sec.

Note:

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

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

3. Cooling Speed: 2~10 ł /sec.

Â/Cã] / Resistance to Soldering Heat Test Conditions

□ ỷ χ 260°5 ł	`H ڑ χ 10°1 sec.	Temp.:260±5	Time:10±1 sec

ɔ ` ﾔ Ł / REEL

Package Type Ɱ Ł ė Ǎ	Units ;þl	Dimension ;þ.	(unitÆmm³)