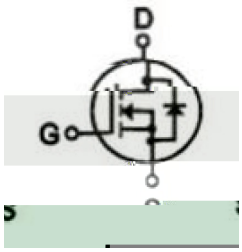
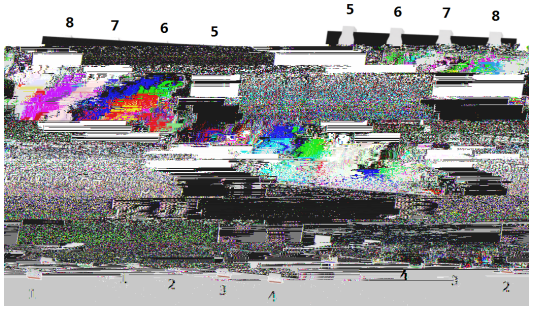
SGIQ8Ö90F0Is Ṃ Ł Q ڜ ʃ ѽ Ẕ ᒣ
N-Channel MOSFET in a PDFN5h 6–Clip Plastic Package.

$V_{DS}$(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

| v ‴Ω<br>Parameter | ٩ N<br>Symbol | ‴Ω Ö<br>Rating | D Ч<br>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:

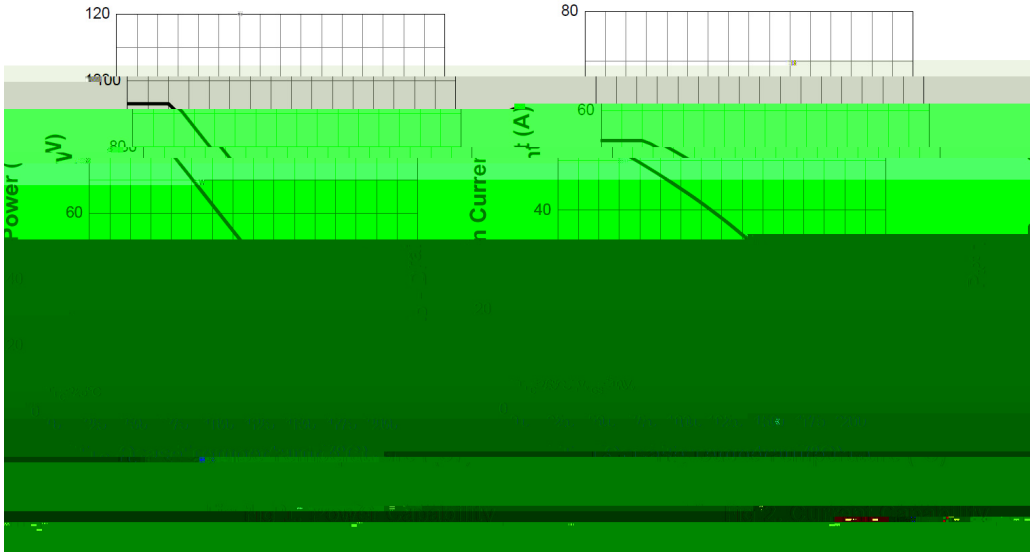
*: Surface Mounted on 1 in2 pad area, t ” 10 sec

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

| v ‴Ω<br>Parameter | ٩ N<br>Symbol | ╨ ⁝ ˆ ţ<br>Test Conditions | ω ņ Ö<br>Min | Ɛ ʒ Ö<br>Typ | ω ᶻ Ö<br>Max | D Ч<br>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<br>$dI_{SD}$/dt = 100 A/ s | | 77 | | nS |
| Reverse Recovery Charge | $Q_{rr}$ | | | 237 | | nC |
| Input Capacitance | $C_{iss}$ | $V_{DS}$=75V $V_{GS}$=0V<br>f=1.0MHz | | 1548 | | pF |
| Output Capacitance | $C_{oss}$ | | | 227 | | |
| Reverse Transfer Capacitance | $C_{rss}$ | | | 14 | | |

| v ̈Ω<br>Parameter | ϒ N<br>Symbol | ╨ ;ϒ ϯ<br>Test Conditions | ώ ṇ Ö<br>Min | Ɛ ʒ Ö<br>Typ | ώ ᶻ Ö<br>Max | ɒ Ꮒ<br>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 | | |

## 典型特性曲线



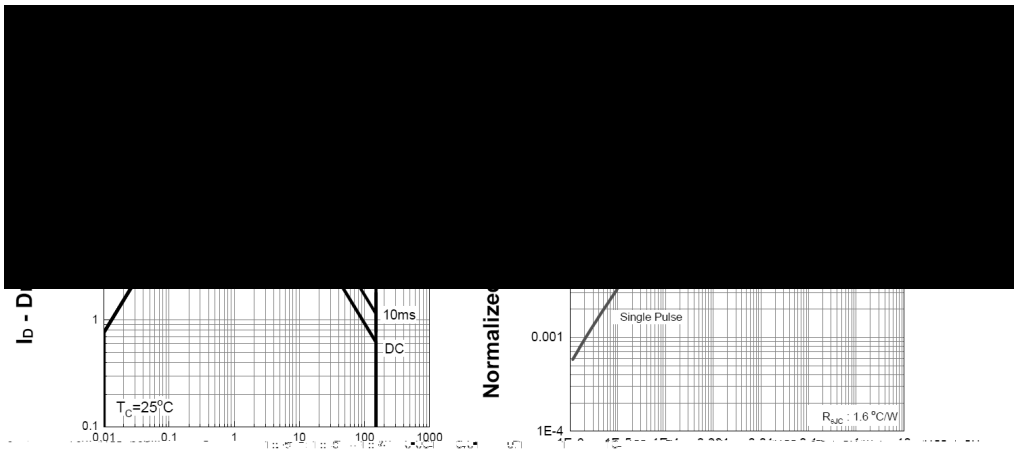
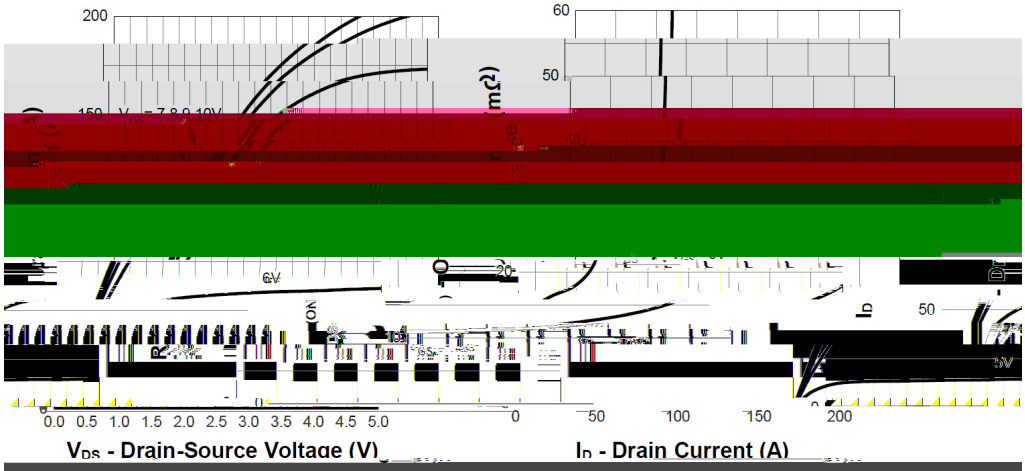
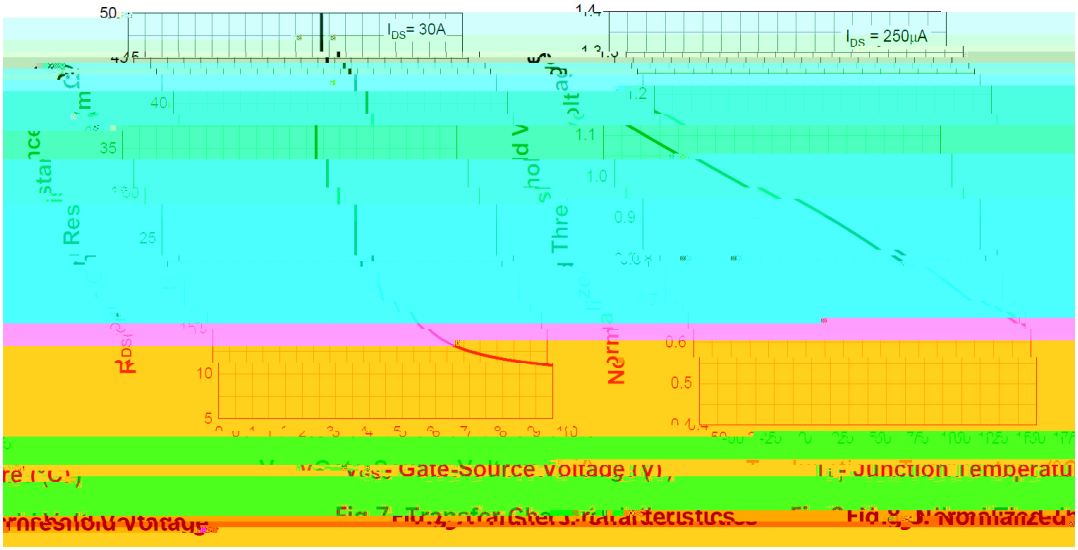



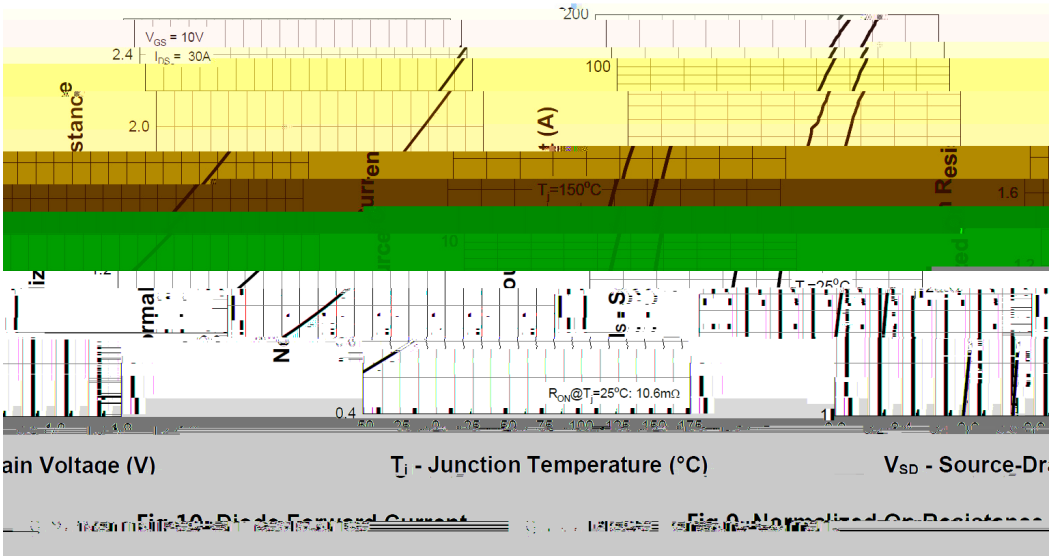

Fig 3. Safe Operating Area　　Fig 4. Transient Thermal Impedance

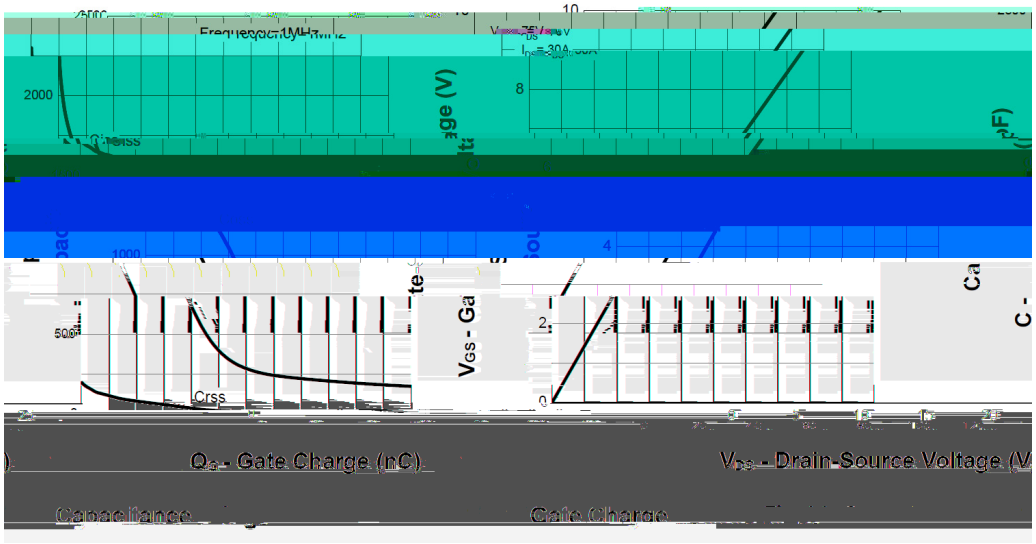



$V_{DS}$ - Drain-Source Voltage (V)　　$I_D$ - Drain Current (A)

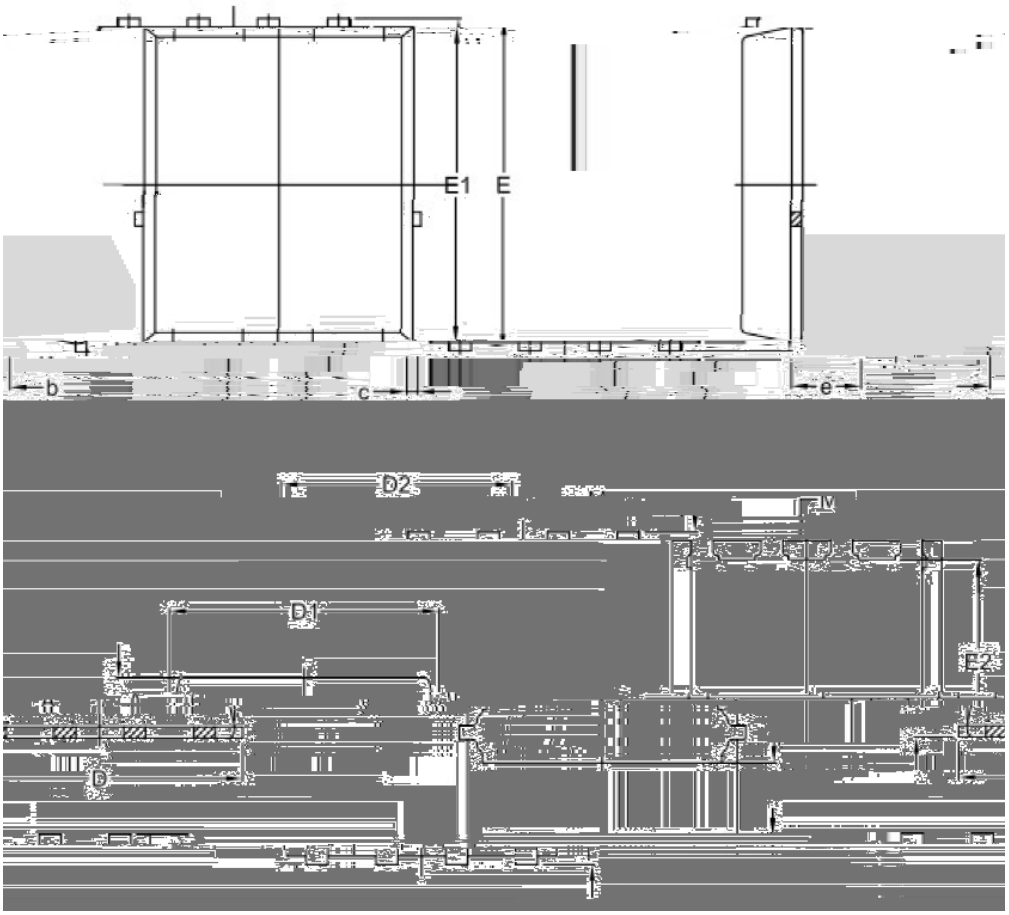
Fig 5. Output Characteristics　　Fig 6. On-Resistance


$I_{DS}$= 30A
$I_{DS}$ = 250μA
Gate-Source Voltage (V)
- Junction Temperatu


$V_{GS}$ = 10V
$I_{DS}$ = 30A
$T_j$=150°C
$R_{ON}$@$T_j$=25°C: 10.6mΩ
$T_j$ - Junction Temperature (°C)

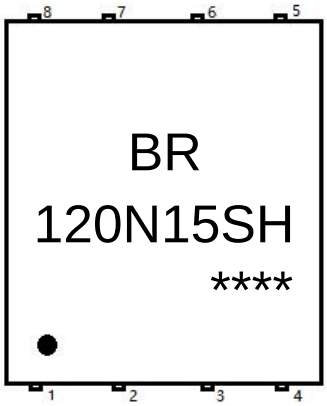

Crss
$Q_g$ - Gate Charge (nC)
$V_{DS}$ - Drain-Source Voltage (V
Capacitance
Gate Charge

## 封装信息




| SYMBOL | MIN | MAX |
|---|---|---|
| A | | 0.9 | 1.2 |
| b | 0.3 | | 0.51 |
| c | 0.11 | | 0.35 |
| D | 4.7 | | 5.35 |
| E1 | 4.4 | | 4.6 |
| D2 | 3.7 | | 4.4 |
| e | 1.37 | 1.17 | |
| E | 6.25 | | 5.75 |
| L | 6 | | 5.6 |
| L1 | 3.9 | | 3.18 |
| L2 | 0.71 | | 0.25 |
| M | 0.71 | | 0.35 |

## ,My ƒ




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EU χ ʁʁ ϛ ᴎ ᑎ

120N15SH χ ʁʁ ʒ ᴺ ᑎ

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Note χ

| | |
|---|---|
| BR χ | Company Code |
| 120N15SH χ | Product Type Code |
| ****: | Lot No. Code, code change with Lot No. |

## ¥VDtŽ.

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ب ˝ χ

1 Ĺ ♬ □ ỷ 150 Ḱ 180 ł ı `H ڑ 60 Ḱ 90sec;

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

3 ì ˙ ﾘ ¸ ɔ ﻩ ỷ ₩ 2 Ḱ 10 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]>

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

## ɔ ` ɣ Ł / REEL

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