

## SOT23-3 P MOS

- CHANNEL MOSFET in a SOT23-3 Plastic Package.

$$V_{DS} (V) = -20V \quad I_D = -7A$$

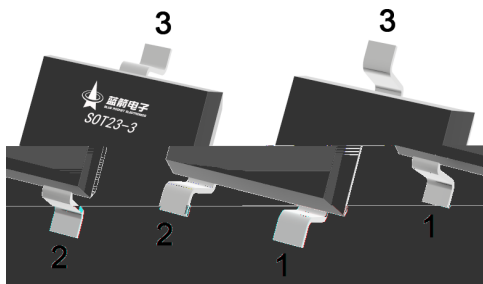
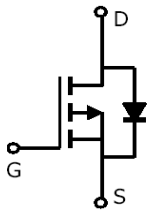
$$R_{DS(ON)} @ -4.5V(Typ.) = 18m$$

$$R_{DS(ON)} @ -2.5V(Typ.) = 20m$$

$$R_{DS(ON)} @ -1.8V(Typ.) = 27m$$

。 HF Product.

Power Management in Notebook computer, Portable Equipment and Battery powered systems.



PIN1 G      PIN 2 S      PIN 3 D

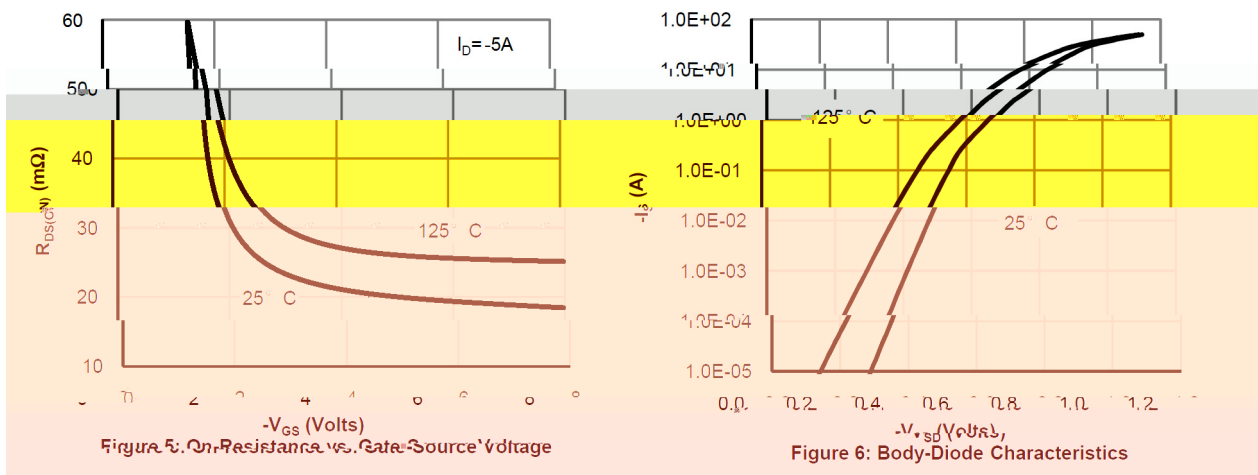
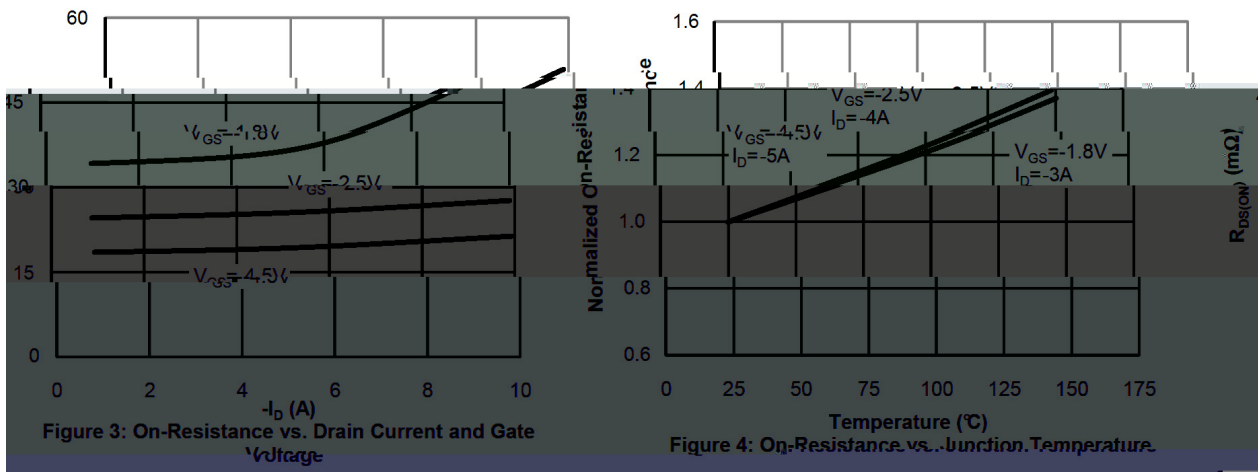
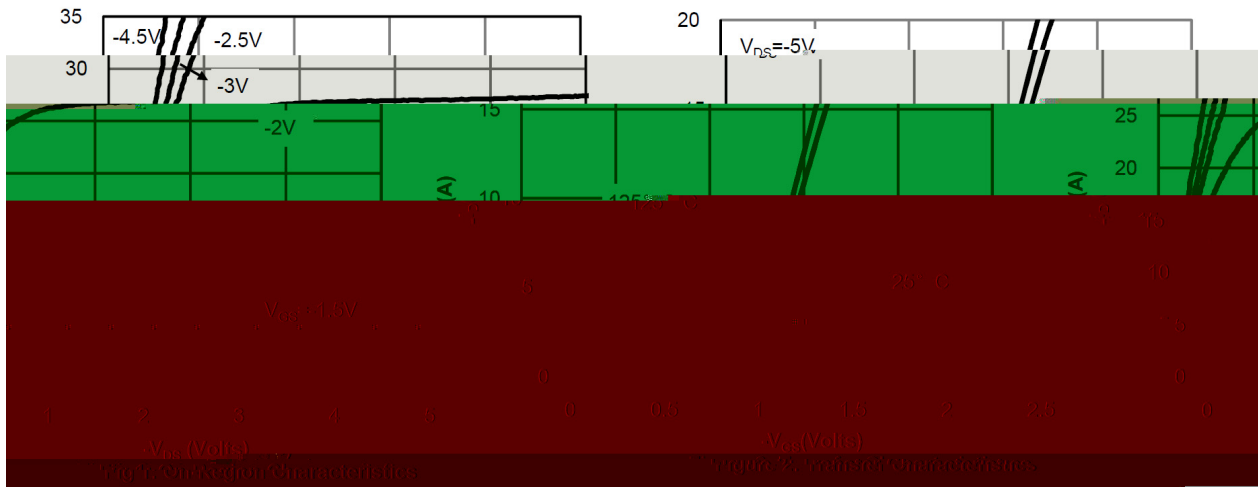
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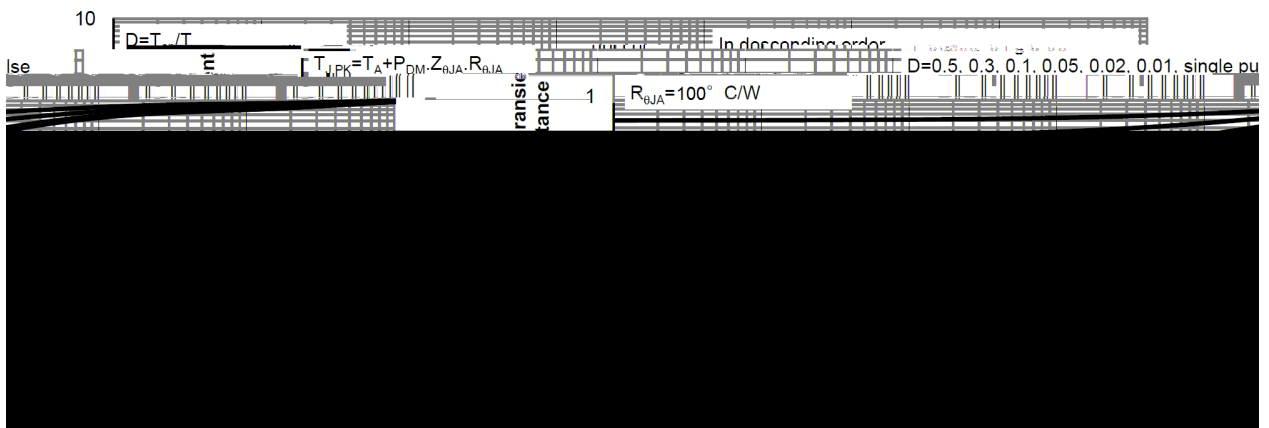
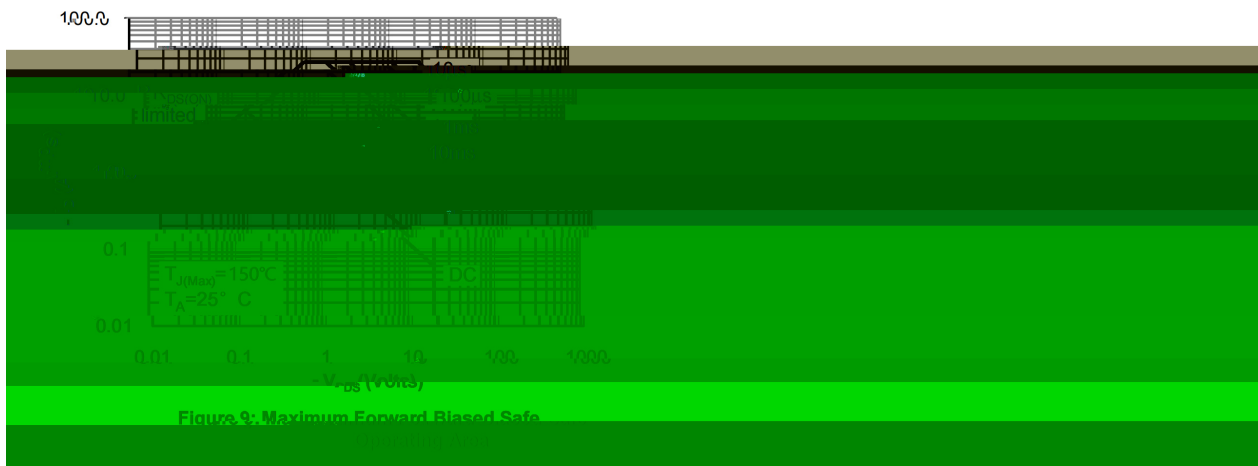
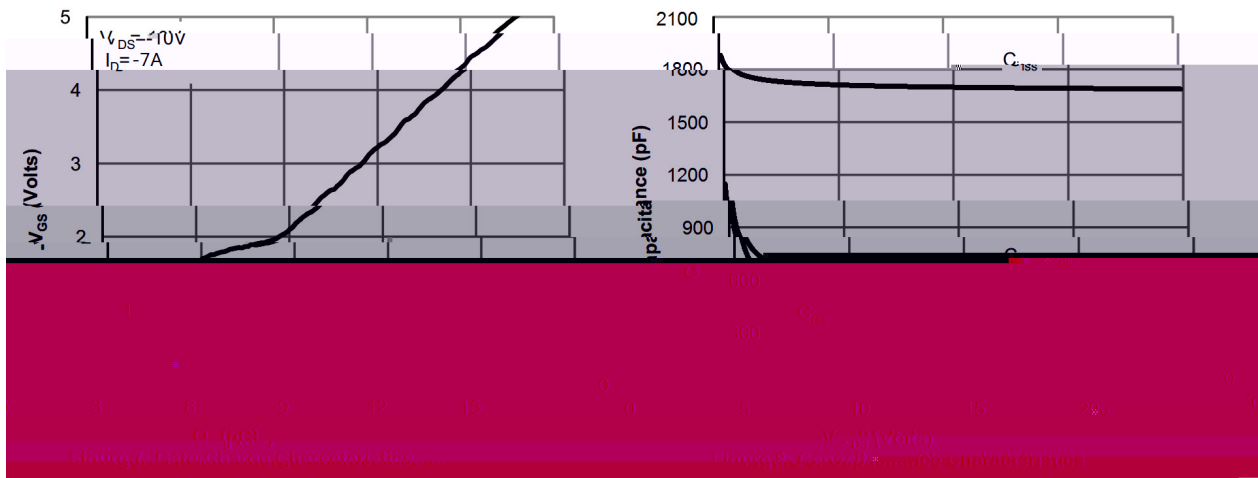
C4H

| Parameter                              |              | Symbol    | Rating   | Unit |
|----------------------------------------|--------------|-----------|----------|------|
| Drain-Source Voltage                   |              | $V_{DSS}$ | -20      | V    |
| Gate-Source Voltage                    |              | $V_{GSS}$ | $\pm 12$ | V    |
| Continuous Drain Current               |              | $I_D$     | -7.0     | A    |
| Pulsed Drain Current                   |              | $I_{DM}$  | -30      | A    |
| Power Dissipation for Single Operation |              | $P_D$     | 1.25     | W    |
| Maximum Junction Temperature           |              | $T_j$     | 150      |      |
| Storage Temperature Range              |              | $T_{stg}$ | -55 150  |      |
| Thermal Resistance-Junction to Ambient | t 10s        | $R_{JA}$  | 100      | /W   |
|                                        | Steady State |           | 130      | /W   |
| Thermal Resistance-Junction to Lead    | Steady State | $R_{JL}$  | 80       | /W   |

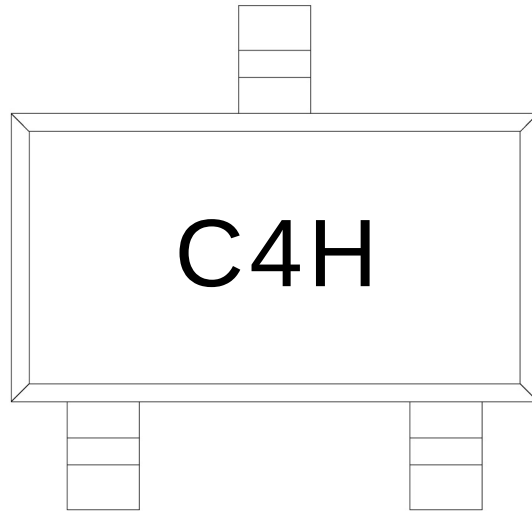
| Parameter                         | Symbol       | Test Conditions                            | Min  | Typ  | Max       | Unit |
|-----------------------------------|--------------|--------------------------------------------|------|------|-----------|------|
| Drain-Source Breakdown Voltage    | $BV_{DSS}$   | $I_D = -250\text{ A}$ $V_{GS} = 0V$        | -20  | -23  |           | V    |
| Zero Gate Voltage Drain Current   | $I_{DSS}$    | $V_{DS} = -20V$ $V_{GS} = 0V$              |      |      | -1.0      | A    |
| Gate-Body leakage current         | $I_{GSS}$    | $V_{DS} = 0V$ $V_{GS} = \pm 12V$           |      |      | $\pm 100$ | nA   |
| Gate Threshold Voltage            | $V_{GS(th)}$ | $V_{DS} = V_{GS}$ $I_D = -250\text{ A}$    | -0.5 | -0.7 | -1.0      | V    |
| Static Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS} = -4.5V$ $I_D = -7A$               |      | 18   | 22        | m    |
|                                   |              | $V_{GS} = -2.5V$ $I_D = -4A$               |      | 20   | 30        |      |
|                                   |              | $V_{GS} = -1.8V$ $I_D = -3A$               |      | 27   | 100       |      |
| Diode Forward Voltage             | $V_{SD}$     | $I_S = -1A$ $V_{GS} = 0V$                  |      |      | -1.2      | V    |
| Gate resistance                   | $R_g$        | $V_{GS} = 0V$ , $f = 1MHz$ $V_{DS} = 0V$ , |      | 11   |           |      |
| Input Capacitance                 | $C_{iss}$    | $V_{GS} = 0V$ $V_{DS} = -5V$<br>$f = 1MHz$ |      | 1700 |           | pF   |
| Output Capacitance                | $C_{oss}$    |                                            |      | 600  |           |      |
| Reverse Transfer Capacitance      | $C_{rss}$    |                                            |      | 450  |           |      |

| Parameter           | Symbol       | Test Conditions                                                 | Min | Typ  | Max | Unit |
|---------------------|--------------|-----------------------------------------------------------------|-----|------|-----|------|
| Total Gate Charge   | $Q_g$        | $V_{GS}=-4.5V, \quad V_{DS}=-10V, \quad I_D=-7A$                |     | 13   |     | nC   |
| Gate Source Charge  | $Q_{gs}$     |                                                                 |     | 2.5  |     |      |
| Gate Drain Charge   | $Q_{gd}$     |                                                                 |     | 4.2  |     |      |
| Turn-On Delay Time  | $t_{d(on)}$  | $V_{GS}=-4.5V \quad R_L=1.25 \quad V_{DS}=-10V \quad R_{GEN}=3$ |     | 7.5  |     | ns   |
| Turn-On Rise Time   | $t_r$        |                                                                 |     | 29.2 |     |      |
| Turn-Off Delay Time | $t_{d(off)}$ |                                                                 |     | 103  |     |      |
| Turn-Off Fall Time  | $t_f$        |                                                                 |     | 50   |     |      |









C4

H

Note:

C4: Product Type Code

H: Company Code

Temperature Profile for IR Reflow Soldering(Pb-Free)

|  |
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|  |
|  |
|  |
|  |
|  |
|  |
|  |

- 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