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| Parameter                | Symbol        | Rating   | Unit |
|--------------------------|---------------|----------|------|
| Drain-Source Voltage     | $V_{DS}$      | 30       | V    |
| Gate-Source Voltage      | $V_{GS}$      | $\pm 20$ | V    |
| Continuous Drain Current | $I_{D@TC=25}$ | 60       | A    |
|                          | $I_{D@TC=75}$ | 45.6     | A    |



**Thermal resistance(Q1)**

| Parameter                                    | Symbol            | Min. | Typ. | Max. | Unit  |
|----------------------------------------------|-------------------|------|------|------|-------|
| Thermal resistance, junction - case          | R <sub>thJC</sub> | -    | -    | 2.1  | ° C/W |
| Thermal resistance, junction - ambient       | R <sub>thJA</sub> | -    | -    | 70   | ° C/W |
| Soldering temperature, wavesoldering for 10s | T <sub>sold</sub> | -    | -    | 265  | ° C   |

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**(Q1)**

| Parameter                      | Symbol            | Condition                                  | Min. | Typ | Max. | Unit |
|--------------------------------|-------------------|--------------------------------------------|------|-----|------|------|
| Drain-Source Breakdown Voltage | BV <sub>DSS</sub> | V <sub>GS</sub> =0V, I <sub>D</sub> =250uA | 30   |     |      | V    |

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T<sub>C</sub> =25 Q2

| Parameter                             | Symbol                | Rating     | Unit |
|---------------------------------------|-----------------------|------------|------|
| Drain-Source Voltage                  | V <sub>DS</sub>       | 30         | V    |
| Gate-Source Voltage                   | V <sub>GS</sub>       | ±20        | V    |
| Continuous Drain Current              | I <sub>D@TC=25</sub>  | 95         | A    |
|                                       | I <sub>D@TC=75</sub>  | 72.2       | A    |
|                                       | I <sub>D@TC=100</sub> | 59.9       | A    |
| Pulsed Drain Current                  | I <sub>DM</sub>       | 230        | A    |
| Total Power Dissipation(TC=25 )       | P <sub>D@TC=25</sub>  | 3.6        | W    |
| Total Power Dissipation(TA=25 )       | P <sub>D@TA=25</sub>  | 0.69       | W    |
| Operating Junction Temperature        | T <sub>J</sub>        | -55 to 150 |      |
| Storage Temperature                   | T <sub>STG</sub>      | -55 to 150 |      |
| Single Pulse Avalanche Energy@L=0.1mH | E <sub>AS</sub>       | 180        | mJ   |
| Avalanche Current@L=0.1mH             | I <sub>AS</sub>       | 60         | A    |

## Thermal resistance(Q2)

| Parameter                                    | Symbol            | Min. | Typ. | Max. | Unit  |
|----------------------------------------------|-------------------|------|------|------|-------|
| Thermal resistance, junction - case          | R <sub>thJC</sub> | -    | -    | 2.5  | ° C/W |
| Thermal resistance, junction - ambient       | R <sub>thJA</sub> | -    | -    | 70   | ° C/W |
| Soldering temperature, wavesoldering for 10s | T <sub>sold</sub> | -    | -    | 265  | ° C   |

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(Q2)

| Parameter                         | Symbol              | Condition                                                | Min. | Typ | Max. | Unit |
|-----------------------------------|---------------------|----------------------------------------------------------|------|-----|------|------|
| Drain-Source Breakdown Voltage    | BV <sub>DSS</sub>   | V <sub>GS</sub> =0V, I <sub>D</sub> =250uA               | 30   |     |      | V    |
| Gate Threshold Voltage            | V <sub>GS(TH)</sub> | V <sub>GS</sub> =V <sub>DS</sub> , I <sub>D</sub> =250uA | 1.2  |     | 2.5  | V    |
| Drain-Source Leakage Current      | I <sub>DSS</sub>    | V <sub>DS</sub> =30V, V <sub>GS</sub> =0V                |      |     | 1.0  | uA   |
| Gate- Source Leakage Current      | I <sub>GSS</sub>    | V <sub>GS</sub> =±20V ,V <sub>DS</sub> =0V               |      |     | 100  | nA   |
| Static Drain-source On Resistance |                     | V <sub>GS</sub> =10V, I <sub>D</sub> =20A                |      |     |      |      |
|                                   |                     | V <sub>GS</sub> =4.5V, I <sub>D</sub> =10A               |      |     |      |      |
| Forward Transconductance          | g <sub>FS</sub>     | V <sub>DS</sub> =25V, I <sub>D</sub> =10A                |      |     |      |      |
| Source-drain voltage              | V <sub>SD</sub>     | I <sub>S</sub> =20A                                      |      |     |      |      |

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(Q2)

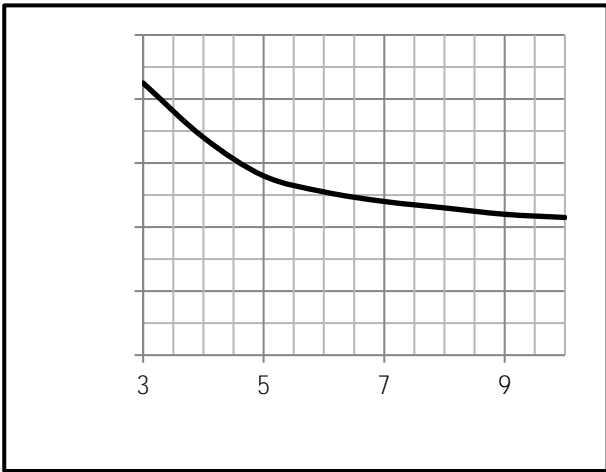
| Parameter                    | Symbol    | Condition | Min. | Typ | Max. | Unit |
|------------------------------|-----------|-----------|------|-----|------|------|
| Input capacitance            | $C_{iss}$ | f = 1MHz  | -    |     | -    | pF   |
| Output capacitance           | $C_{oss}$ |           | -    |     | -    |      |
| Reverse transfer capacitance | $C_{rss}$ |           | -    |     | -    |      |

Gate Charge characteristics( $T_a = 25$  )(Q2)

| Parameter            | Symbol   | Condition      | Min. | Typ | Max. | Unit |
|----------------------|----------|----------------|------|-----|------|------|
| Total gate charge    | $Q_g$    | $V_{DD} = 25V$ | -    | 29  | -    | nC   |
| Gate - Source charge | $Q_{gs}$ | $I_D = 5A$     | -    | 12  | -    |      |
| Gate - Drain charge  | $Q_{gd}$ | $V_{GS} = 10V$ | -    | 11  | -    |      |

Note: Pulse Test : 2% ;





Channel characteristics curve(Q2)

Fig.9 Gate-Charge Characteristics

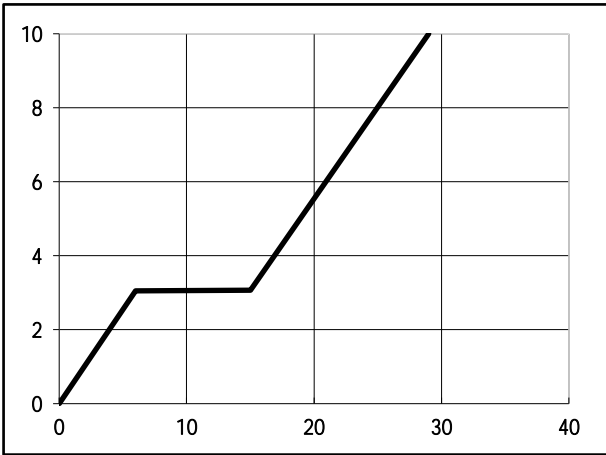


Fig.11 Power Dissipation

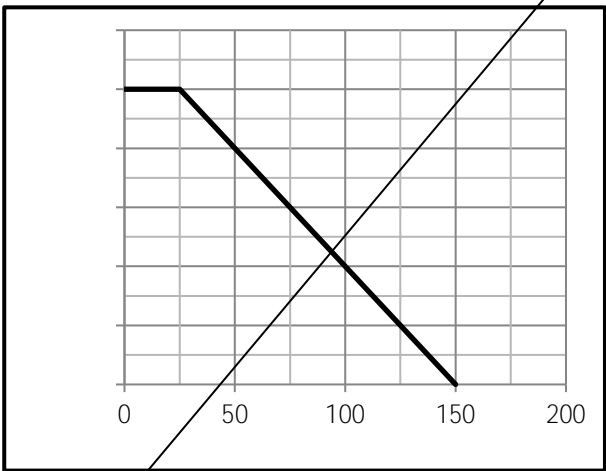


Fig.10 Capacitance Characteristics

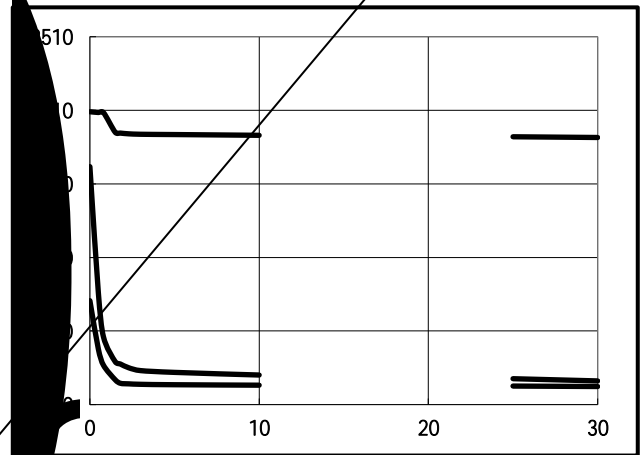


Fig.12 Typical output Characteristics

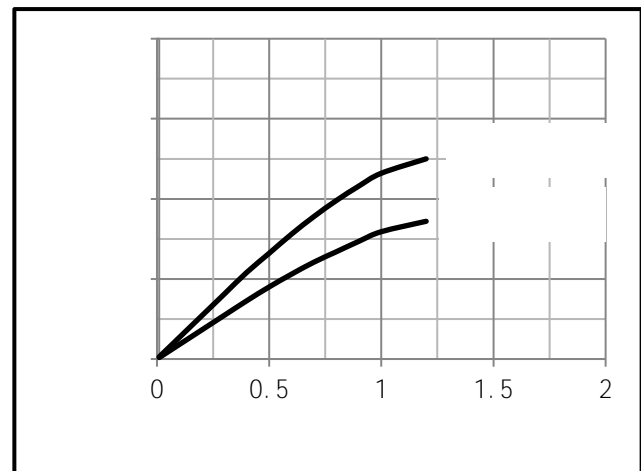
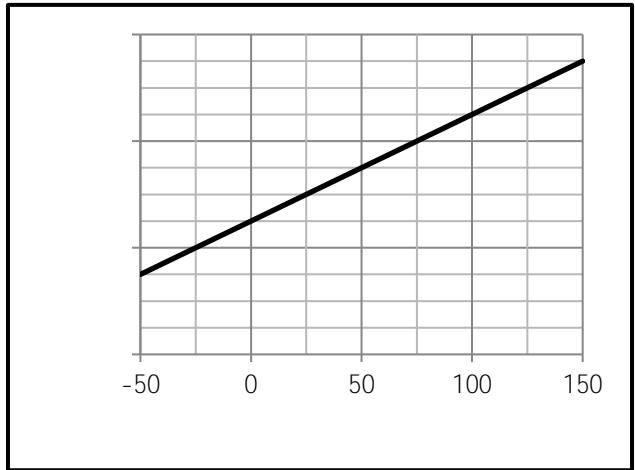
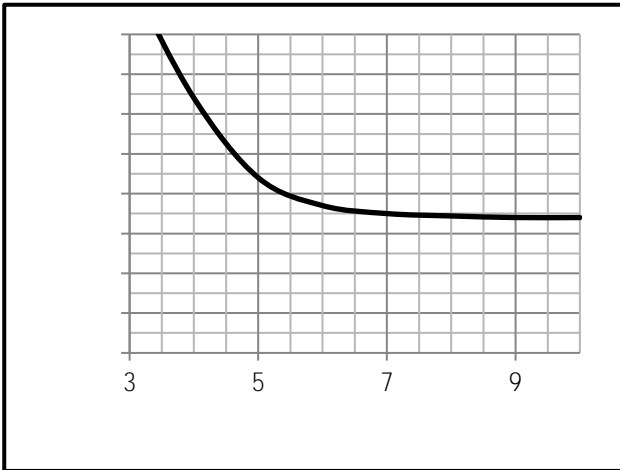
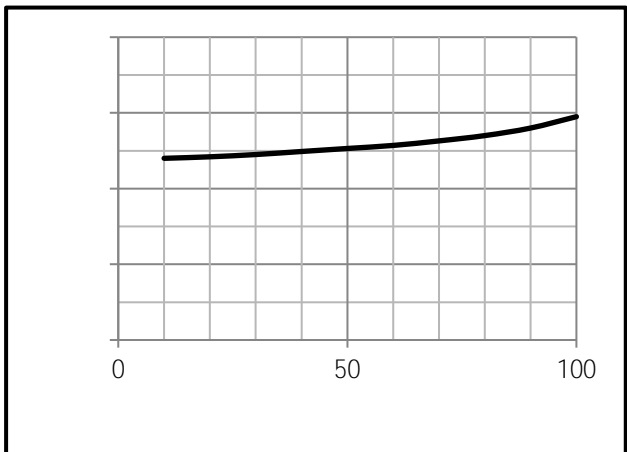
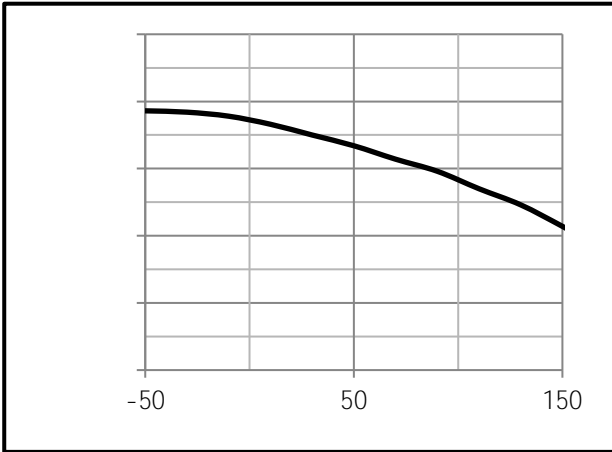




Fig.13 Threshold Voltage V.S Junction Temperature Fig.14 Resistance V.S Drain Current







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