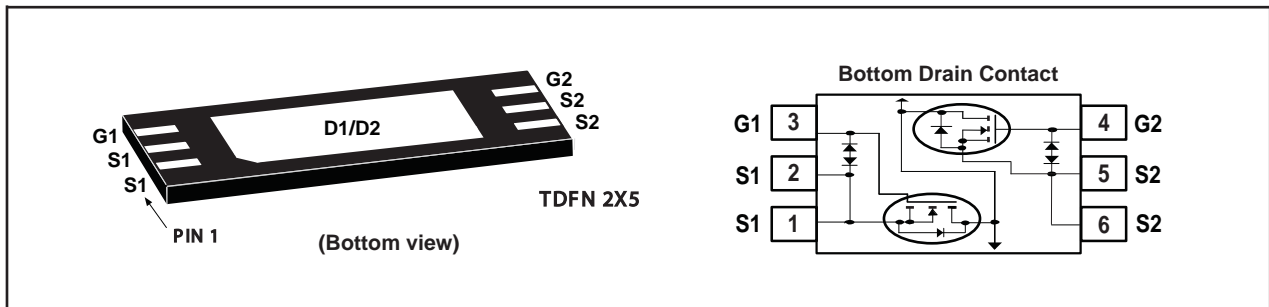


**Dual N-Channel Enhancement Mode Field Effect Transistor****PRODUCT SUMMARY**

| V _{DS} | I _D | R _{DS(ON)} (mΩ) Max |
|-----------------|----------------|------------------------------|
| 24V | 10A | 10.0 @ V _{GS} =4.5V |
| | | 10.5 @ V _{GS} =4.0V |
| | | 11.0 @ V _{GS} =3.7V |
| | | 12.0 @ V _{GS} =3.1V |
| | | 15.5 @ V _{GS} =2.5V |

FEATURES

- Super high dense cell design for low R_{DS(ON)}.
- Rugged and reliable.
- Surface Mount Package.
- ESD Protected.

**ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted)**

| Symbol | Parameter | Limit | Units |
|-----------------------------------|--|----------------------|-------|
| V _{DS} | Drain-Source Voltage | 24 | V |
| V _{GS} | Gate-Source Voltage | ±12 | V |
| I _D | Drain Current-Continuous ^a | T _A =25°C | 10 |
| | | T _A =70°C | 8 |
| I _{DM} | -Pulsed ^b | 48 | A |
| P _D | Maximum Power Dissipation ^a | T _A =25°C | 1.67 |
| | | T _A =70°C | 1.07 |
| T _J , T _{STG} | Operating Junction and Storage Temperature Range | -55 to 150 | °C |

THERMAL CHARACTERISTICS

| | | | |
|------------------|--|----|------|
| R _{θJA} | Thermal Resistance, Junction-to-Ambient ^a | 75 | °C/W |
|------------------|--|----|------|

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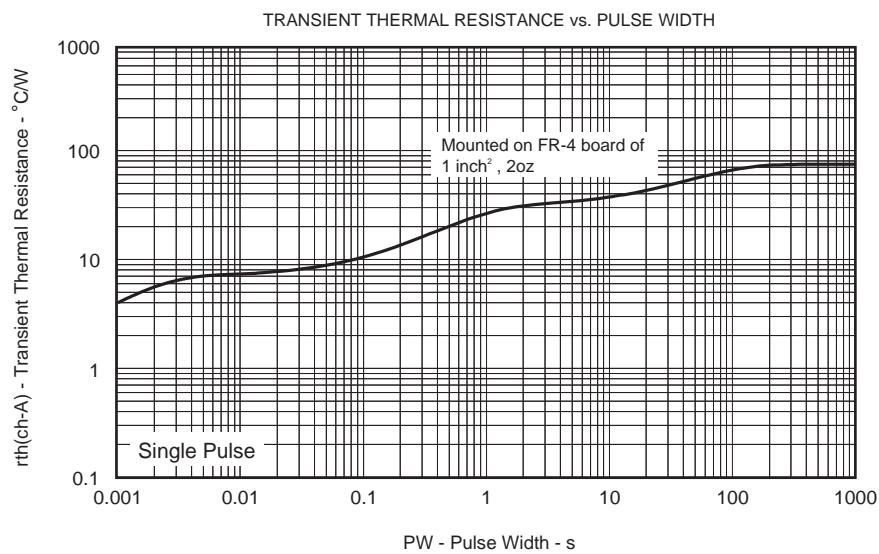
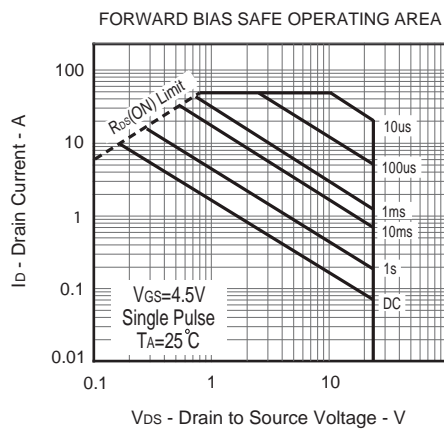
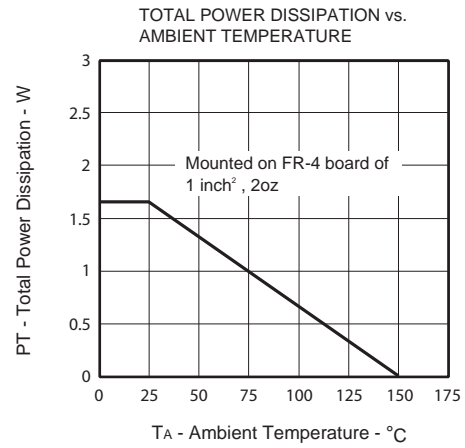
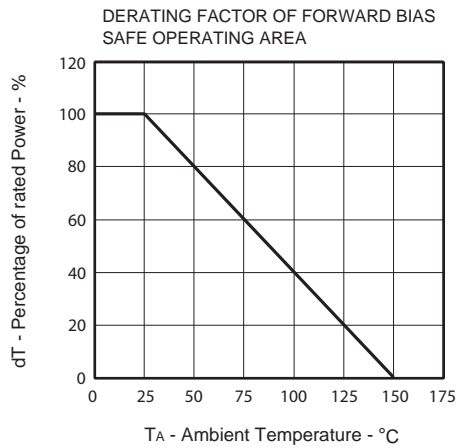
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

| Symbol | Parameter | Conditions | Min | Typ | Max | Units |
|--|----------------------------------|--|-----|------|------|-------|
| OFF CHARACTERISTICS | | | | | | |
| BV _{DSS} | Drain-Source Breakdown Voltage | V _{GS} =0V , I _D =250uA | 24 | | | V |
| I _{DSS} | Zero Gate Voltage Drain Current | V _{DS} =20V , V _{GS} =0V | | | 1 | uA |
| I _{GSS} | Gate-Body Leakage Current | V _{GS} = ±12V , V _{DS} =0V | | | ±10 | uA |
| ON CHARACTERISTICS | | | | | | |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} =V _{GS} , I _D =1.0mA | 0.5 | 0.8 | 1.5 | V |
| R _{DS(ON)} | Drain-Source On-State Resistance | V _{GS} =4.5V , I _D =5A | 6.0 | 8.2 | 10.0 | m ohm |
| | | V _{GS} =4.0V , I _D =5A | 6.3 | 8.5 | 10.5 | m ohm |
| | | V _{GS} =3.7V , I _D =5A | 6.6 | 8.8 | 11.0 | m ohm |
| | | V _{GS} =3.1V , I _D =5A | 7.0 | 9.5 | 12.0 | m ohm |
| | | V _{GS} =2.5V , I _D =5A | 8.0 | 11.0 | 15.5 | m ohm |
| g _{FS} | Forward Transconductance | V _{DS} =10V , I _D =5A | | 33 | | S |
| DYNAMIC CHARACTERISTICS ^c | | | | | | |
| C _{ISS} | Input Capacitance | V _{DS} =10V,V _{GS} =0V f=1.0MHz | | 320 | | pF |
| C _{OSS} | Output Capacitance | | | 274 | | pF |
| C _{RSS} | Reverse Transfer Capacitance | | | 34 | | pF |
| SWITCHING CHARACTERISTICS ^c | | | | | | |
| t _{D(ON)} | Turn-On Delay Time | V _{DD} =20V I _D =5A | | 163 | | ns |
| t _r | Rise Time | | | 755 | | ns |
| t _{D(OFF)} | Turn-Off Delay Time | V _{GS} =4.0V R _{GEN} =6 ohm | | 2080 | | ns |
| t _f | Fall Time | | | 1400 | | ns |
| Q _g | Total Gate Charge | V _{DS} =20V,I _D =10A, V _{GS} =4.0V | | 17.6 | | nC |
| Q _{gs} | Gate-Source Charge | | | 2.5 | | nC |
| Q _{gd} | Gate-Drain Charge | | | 9.6 | | nC |
| DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS | | | | | | |
| V _{SD} | Diode Forward Voltage | V _{GS} =0V,I _S =10A | | 0.85 | 1.2 | V |
| Notes | | | | | | |
| a.Surface Mounted on FR4 Board,t ≤ 10sec. | | | | | | |
| b.Pulse Test:Pulse Width < 300us, Duty Cycle < 2%. | | | | | | |
| c.Guaranteed by design, not subject to production testing. | | | | | | |

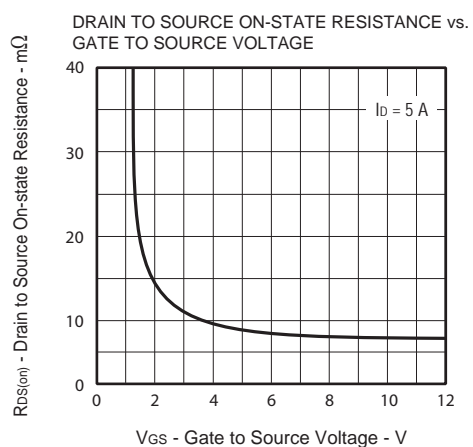
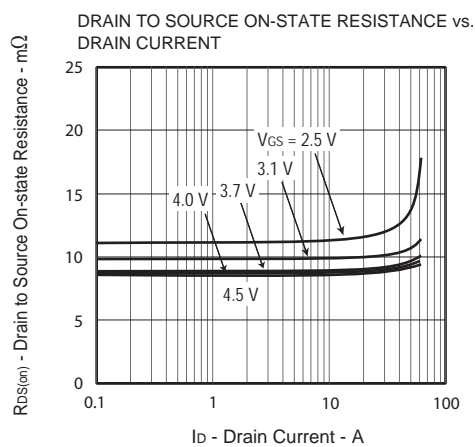
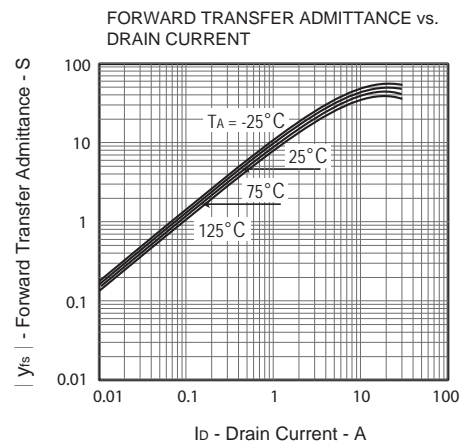
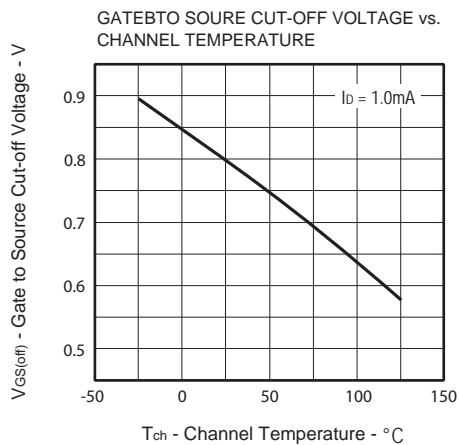
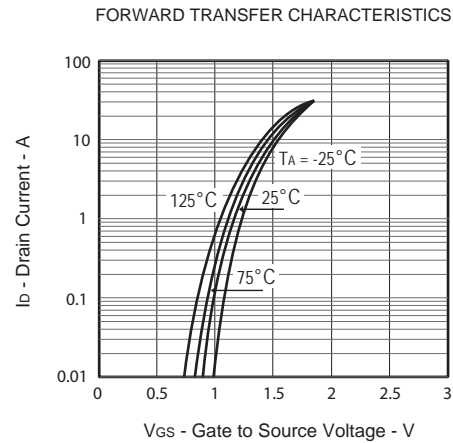
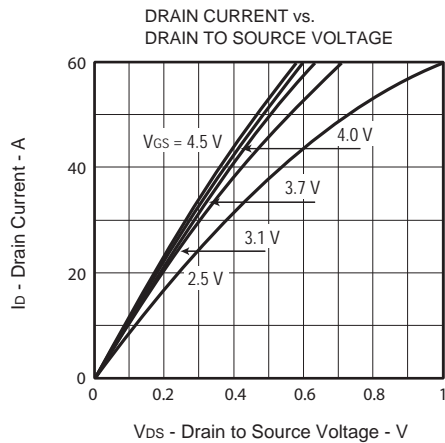
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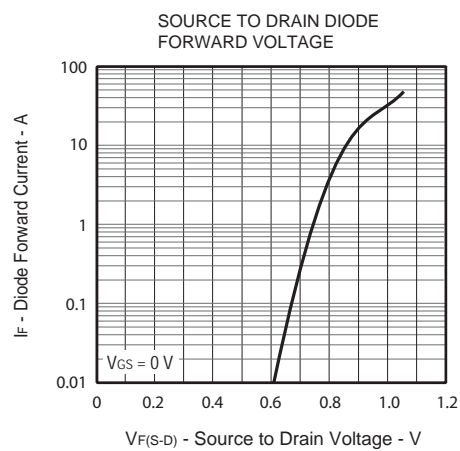
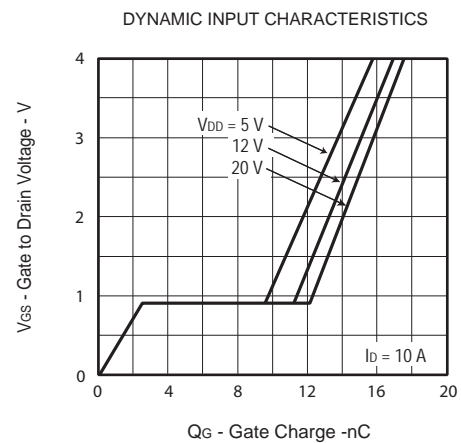
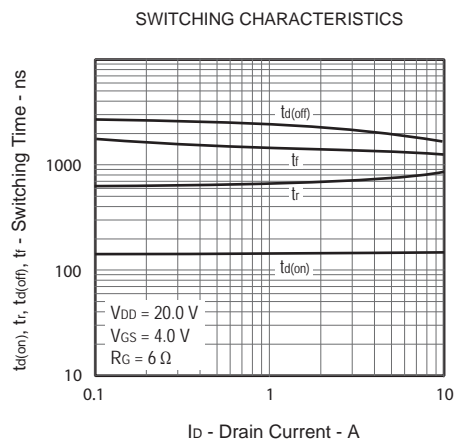
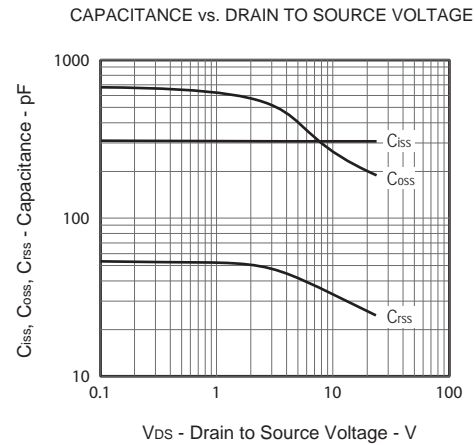
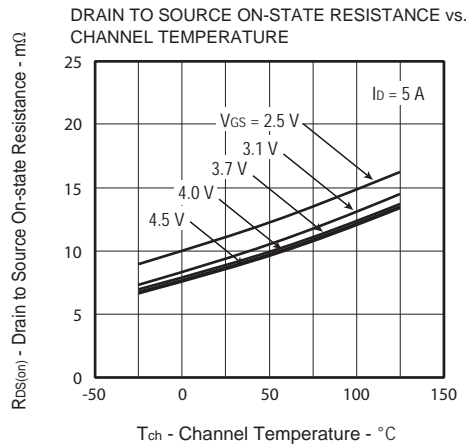
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PACKAGE OUTLINE DIMENSIONS

