

Features

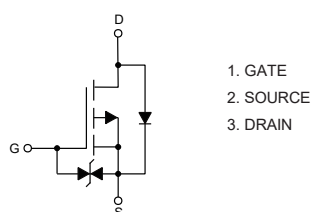
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"

Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C

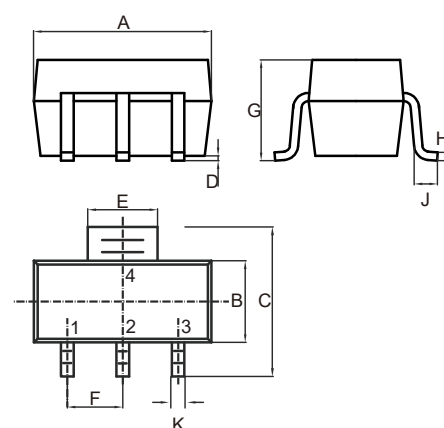
| Parameter | Symbol | Rating | Unit |
|---|----------|----------|------|
| Drain-Source Voltage | V_{DS} | -100 | V |
| Gate-Source Voltage | V_{GS} | ± 20 | V |
| Drain Current | I_D | -6.0 | A |
| Pulsed Drain Current ^(Note1) | I_{DM} | -30 | A |
| Total Power Dissipation | P_D | 1.25 | W |

Internal Structure



P-Channel Power MOSFET

SOT-223



| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.248 | 0.264 | 6.30 | 6.70 | |
| B | 0.130 | 0.146 | 3.30 | 3.70 | |
| C | 0.264 | 0.287 | 6.70 | 7.30 | |
| D | 0.001 | 0.004 | 0.02 | 0.10 | |
| E | 0.114 | 0.122 | 2.90 | 3.10 | |
| F | 0.091 | | 2.30 | | TYP. |
| G | --- | 0.071 | --- | 1.80 | |
| H | 0.009 | 0.014 | 0.23 | 0.35 | |
| J | 0.030 | --- | 0.75 | --- | |
| K | 0.026 | 0.033 | 0.66 | 0.84 | |

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|----------------------|--|------|-------|------|------|
| Static Characteristics | | | | | | |
| Drain-Source Breakdown Voltage | V _{(BR)DSS} | V _{GS} =0V, I _D =-250μA | -100 | | | V |
| Gate-Source Leakage Current | I _{GSS} | V _{DS} =0V, V _{GS} =±16V | | | ±10 | μA |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} =-100V, V _{GS} =0V | | | -1 | μA |
| Gate-Threshold Voltage | V _{GS(th)} | V _{DS} =V _{GS} , I _D =-250μA | -1.2 | -1.75 | -2.8 | V |
| Drain-Source On-Resistance | R _{DS(on)} | V _{GS} =-10V, I _D =-6A | | | 205 | mΩ |
| | | V _{GS} =-4.5V, I _D =-6A | | | 250 | |
| Forward Tranconductance | g _{FS} | V _{DS} =-15V, I _D =-5A | 10 | | | S |
| Dynamic Characteristics | | | | | | |
| Input Capacitance | C _{iss} | V _{DS} =-25V, V _{GS} =0V, f=1MHz | | 760 | | pF |
| Output Capacitance | C _{oss} | | | 260 | | |
| Reverse Transfer Capacitance | C _{rss} | | | 170 | | |
| Switching Characteristics | | | | | | |
| Total Gate Charge | Q _g | V _{DD} =-50V, V _{GS} =-10V, I _D =-6A | | 25 | | nC |
| Gate-Source Charge | Q _{gs} | | | 5 | | |
| Gate-Drain Charge | Q _{gd} | | | 7 | | |
| Turn-On Delay Time | t _{d(on)} | V _{DD} =-50V, V _{GEN} =-10V I _D =-6A, R _{GEN} =9.1Ω | | 14 | | ns |
| Turn-On Rise Time | t _r | | | 18 | | |
| Turn-Off Delay Time | t _{d(off)} | | | 50 | | |
| Turn-Off Fall Time | t _f | | | 18 | | |
| Drain-Source Body Diode Characteristics | | | | | | |
| Diode Forward Current | I _S | | | | -13 | A |
| Diode Forward Voltage | V _{SD} | I _{SD} =-6A, V _{GS} =0V | | | -1.2 | V |
| Reverse Recovery Time | t _{rr} | I _F =-6A, di/dt=100A/μs | | 35 | | ns |
| Reverse Recovery Charge | Q _{rr} | | | 46 | | nC |
| Forward Turn-On Time | T _{on} | Intrinsic Turn-On Time is Negligible (Turn-On is Dominated by LS+LD) | | | | |

Curve Characteristics

Fig. 1 - Output Characteristics

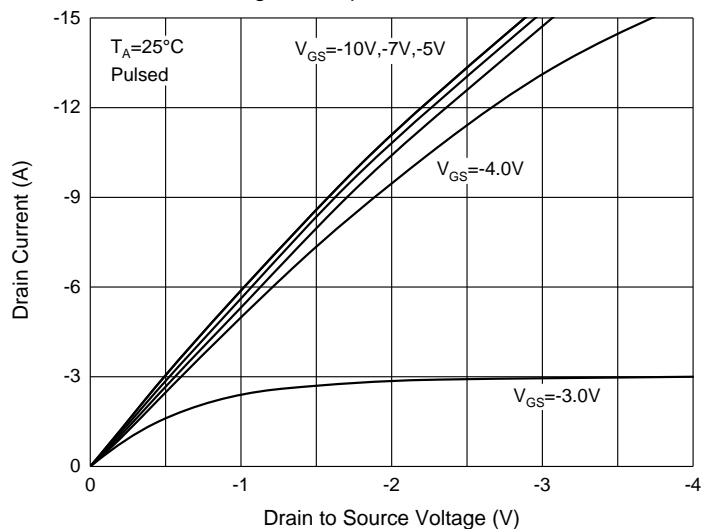


Fig. 2 - $R_{DS(ON)}$ —Temperature

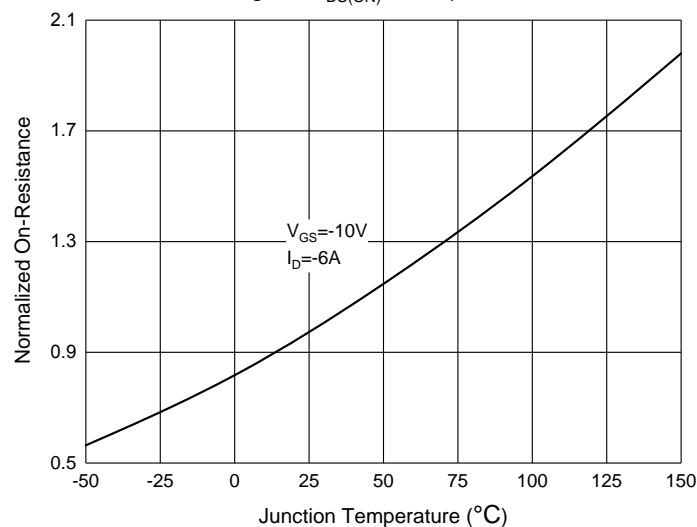


Fig. 3 - Transfer Characteristics

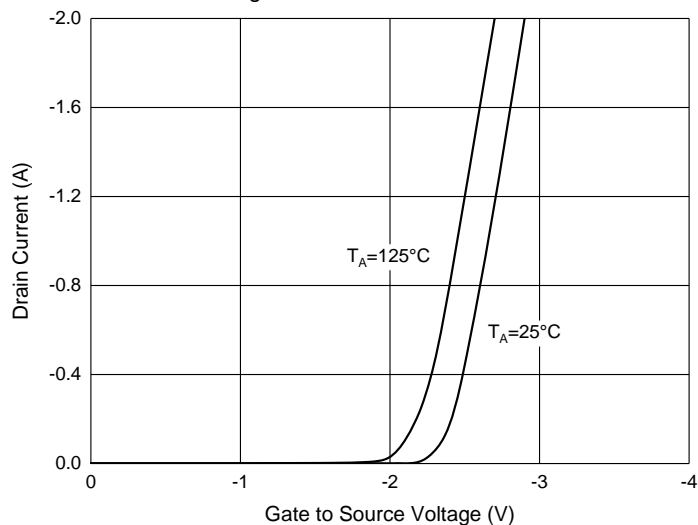


Fig. 4 - Gate Charge

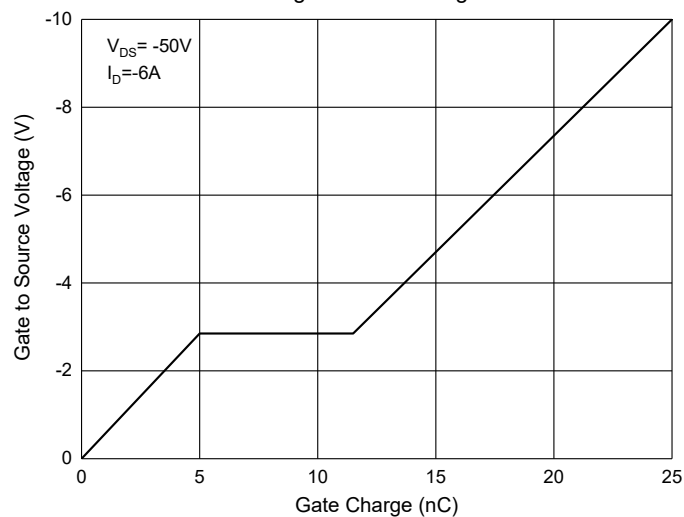


Fig. 5 - I_S — V_{SD}

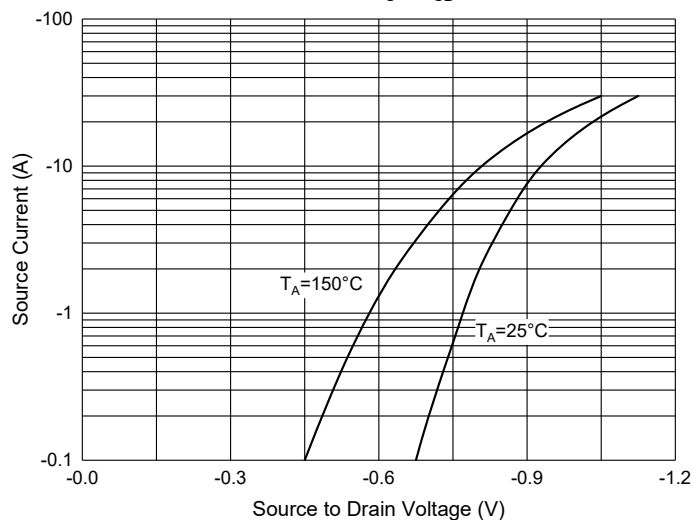
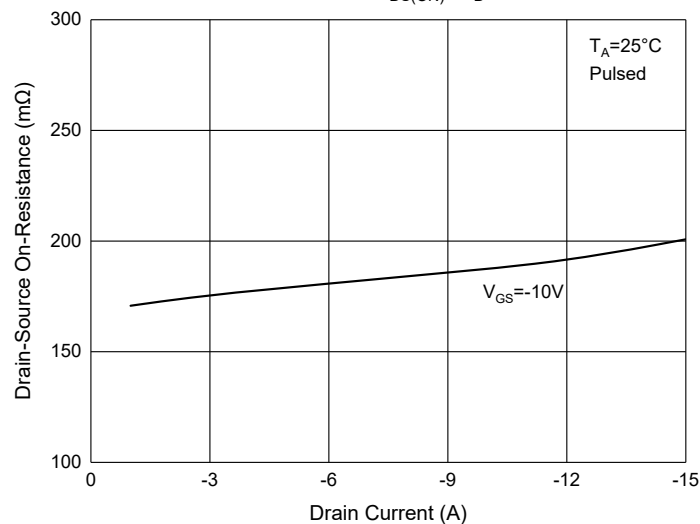


Fig. 6 - $R_{DS(ON)}$ — I_D



Ordering Information

| Device | Packing |
|----------------|-------------------------|
| Part Number-TP | Tape&Reel: 2.5Kpcs/Reel |

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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