

DESCRIPTION

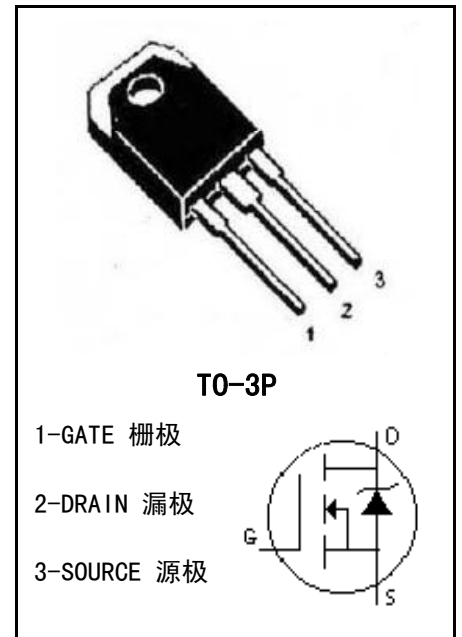
- ELECTRONIC BALLAST
- ELECTRONIC TRANSFORMER
- SWITCH MODE POWER SUPPLY

FEATURES:

- LOW THERMAL RESISTANCE
- HIGH INPUT RESISTANCE
- FAST SWITCHING
- ROHS COMPLIANT

MAXIMUM RATINGS (T_c=25°C)

| PARAMETER | SYMBOL | VALUE | UNIT |
|---------------------------------------------------------|------------------|---------|------|
| Drain-source Voltage | VDS | 800 | V |
| gate-source Voltage | VGS | ±30 | V |
| Continuous Drain Current (T _C =25°C) | ID | 15 | A |
| Drain Current-Pulsed | IDM | 45 | A |
| Total Dissipation | PD | 105 | W |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature | T _{stg} | -55-150 | °C |
| Single Pulse Avalanche Energy (I _{AS} =15A) | EAS | 290 | mJ |

MECHANICAL

ELECTRONIC CHARACTERISTICS (T_c=25°C)

| CHARACTERISTICS | SYMBOL | TEST CONDITION | MIN | MAX | UNIT |
|-------------------------------------|----------|---------------------|-----|------|------|
| Drain-source Breakdown Voltage | BVDSS | VGS=0V, ID=250uA | 800 | | V |
| Gate Threshold Voltage | VGS (TH) | VGS=VDS, ID=250 μ A | 2.5 | 4.5 | V |
| Drain-source Leakage Current | IDSS | VDS=800V, VGS=0V | | 1 | uA |
| Drain-Source Diode Forward Voltage | VSD | VGS=0V, IS=7.5A | | 1.5 | V |
| Gate-body Leakage Current (VDS = 0) | IGSS | VGS=±30V | | ±100 | nA |
| Forward Transconductance | gfs | Vds=10V Id=7.5A | 0.5 | | S |
| Static Drain-source On Resistance | RDS (ON) | VGS=10V, ID=7.5A | | 0.38 | Ω |
| Thermal Resistance Junction-case | RthJ-c | | | 1.2 | °C/W |

■ DYNAMIC CHARACTERISTICS (T_c=25°C)

| CHARACTERISTICS | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNIT |
|------------------------------|------------------|--------------------------------------------------------|-----|-----|-----|------|
| Input Capacitance | C _{iss} | V _{DS} =25V, V _{GS} =0V, f=1.0MHZ | - | 800 | - | pF |
| output Capacitance | C _{oss} | | - | 350 | - | pF |
| Reverse Transfer Capacitance | C _{rss} | | - | 10 | - | pF |

■ SWITCHING CHARACTERISTICS (T_c=25°C)

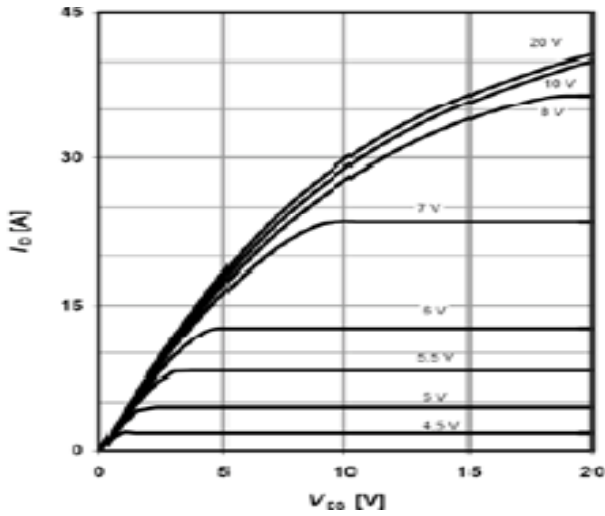
| CHARACTERISTICS | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNIT |
|---------------------|---------------------|----------------------------------------------------------------------|-----|-----|-----|------|
| Turn-On Delay Time | t _{d(on)} | V _{DD} =400V, I _D =7.5A, R _G =20Ω | - | 13 | - | ns |
| Turn-On Rise Time | t _r | | - | 10 | - | ns |
| Turn-Off Delay Time | t _{d(off)} | | - | 100 | - | ns |
| Turn-Off Rise Time | t _f | | - | 12 | - | ns |
| Total Gate Charge | Q _g | V _{DS} =480V, I _D =7.5A, V _{GS} =10V | - | 45 | - | nC |
| Gate-Source Charge | Q _{gs} | | - | 5 | - | nC |
| Gate-Drain Charge | Q _{gd} | | - | 22 | - | nC |

■ DRAIN-SOURCE DIODE MAXIMUM RATINGS AND CHARACTERISTICS (T_c=25°C)

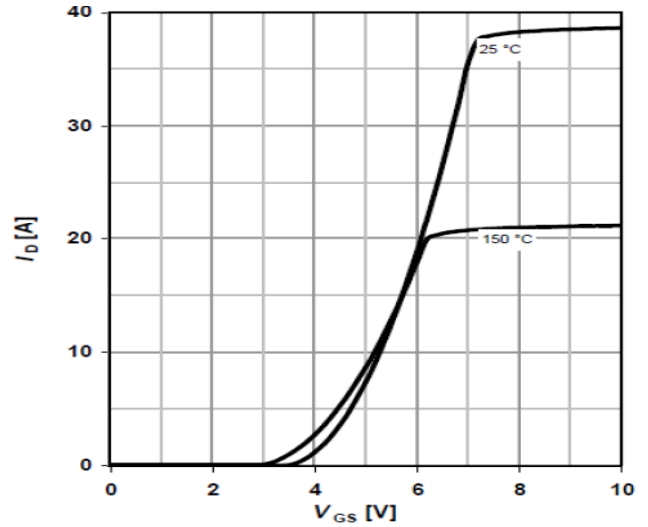
| CHARACTERISTICS | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNIT |
|-----------------------------|-----------------|-----------------------------------------------------------------------------------------------------|-----|-----|-----|------|
| Max. Diode Forward Current | I _s | | - | - | 15 | A |
| Max. Pulsed Forward Current | I _{SM} | | - | - | 45 | A |
| Diode Forward Voltage | V _{SD} | V _{GS} =0V, I _S =7.5A | - | - | 1.5 | V |
| Reverse Recovery Time | t _{rr} | V _{GS} =0V, I _S =7.5A, dI _F /dt=100A/μs, V _{DD} =100V | - | 340 | - | ns |
| Reverse Recovery Charge | Q _{rr} | | - | 4.5 | - | μC |



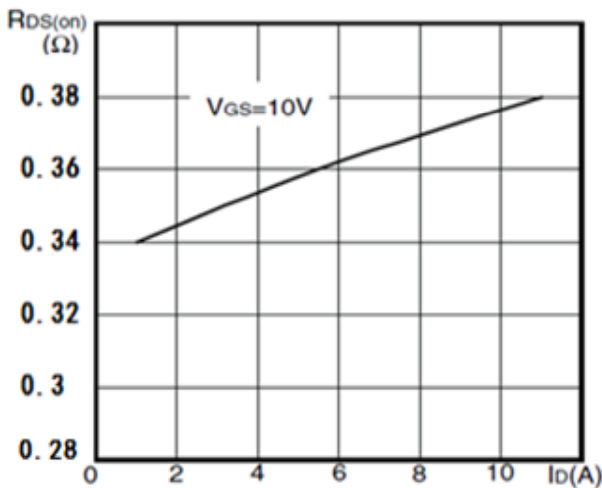
CHARACTERISTICS CURVE



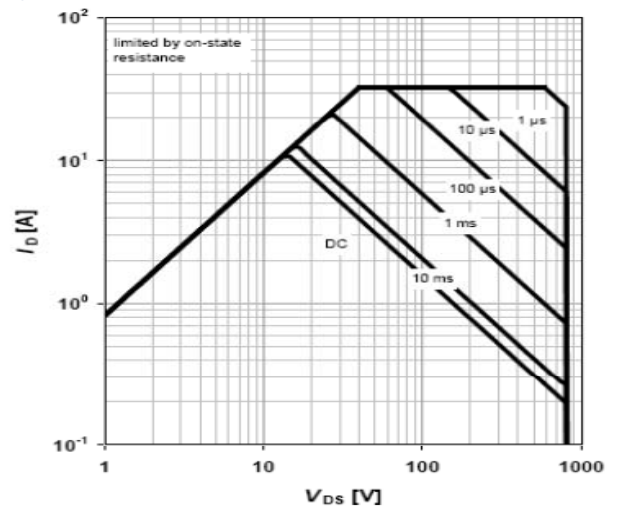
Output Characteristic



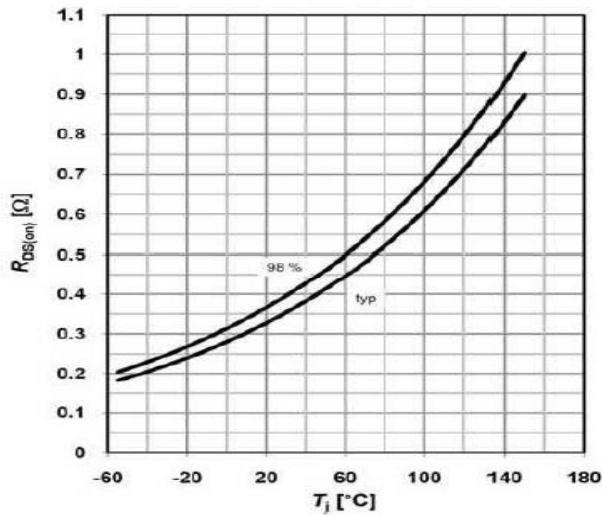
Transfer Characteristic



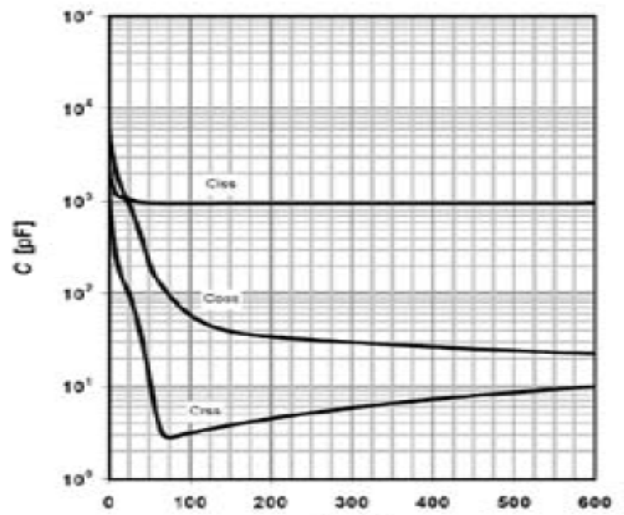
On Resistance Vs Drain Current



Safe Operating Area

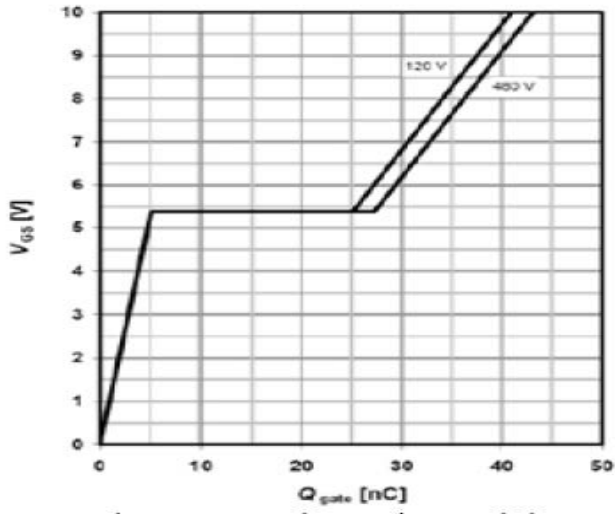


On Resistance Vs Junction Temperature

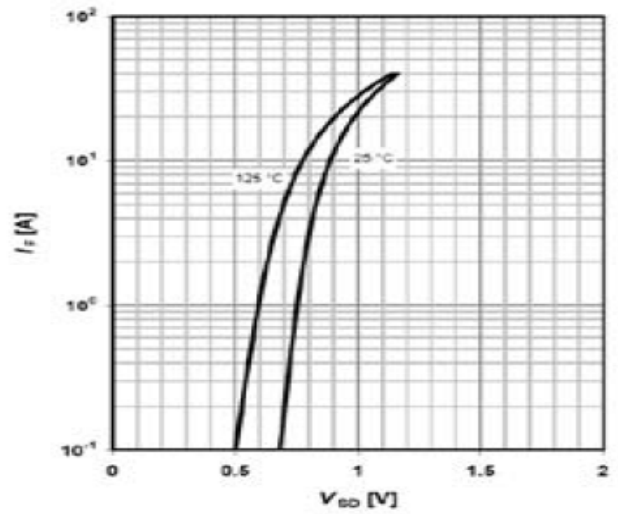


Capacitance

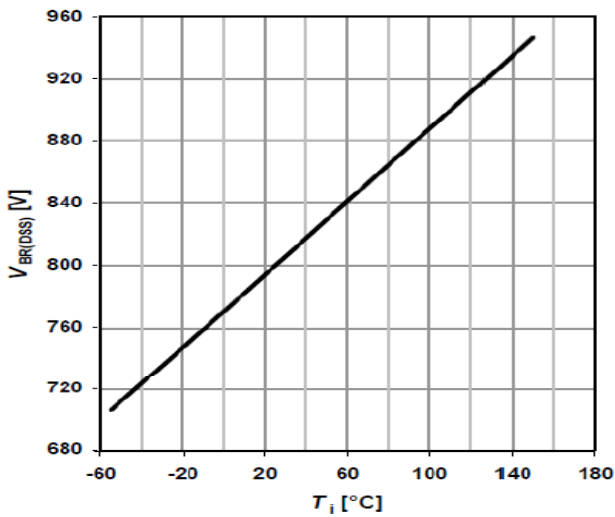
■ CHARACTERISTICS CURVE



Gate Charge Waveform



Source-Drain Diode Forward Voltage



Breakdown Voltage Vs Junction Temperature

TO-3P MECHANICAL DATA

UNIT: mm

| SYMBOL | TYPE | SYMBOL | TYPE |
|--------|------|--------|------|
| A | 15.5 | J | 3.6 |
| B | 12.5 | K | 2.0 |
| C | 10.0 | L | 3.0 |
| D | 3.2 | M | 1.0 |
| E | 5.0 | N | 5.45 |
| F | 19.3 | O | 4.9 |
| G | 18.1 | P | 2.0 |
| H | 13.9 | Q | 2.9 |
| I | 20.0 | R | 0.6 |

