

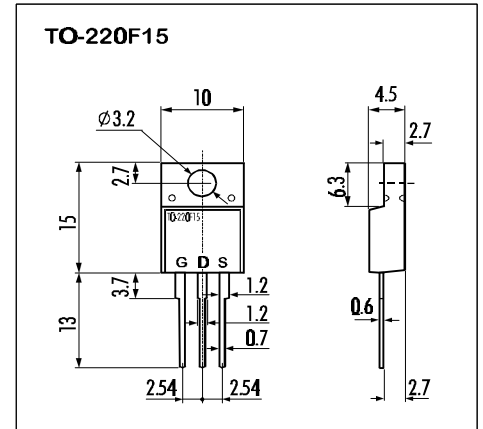
> **Features**

- High Speed Switching
- Low On-Resistance
- No Secondary Breakdown
- Low Driving Power
- High Voltage
- $V_{GS} = \pm 30V$ Guarantee
- Avalanche Proof

> **Applications**

- Switching Regulators
- UPS
- DC-DC converters
- General Purpose Power Amplifier

> **Outline Drawing**

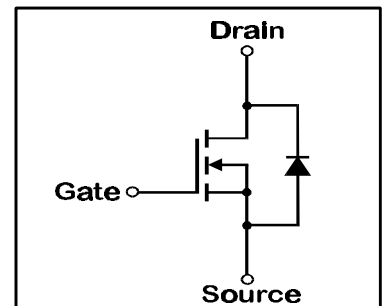


> **Maximum Ratings and Characteristics**

- Absolute Maximum Ratings ($T_C=25^\circ C$), unless otherwise specified

| Item | Symbol | Rating | Unit |
|---|---------------|------------|------------|
| Drain-Source-Voltage | V_{DS} | 600 | V |
| Continuous Drain Current | I_D | 2 | A |
| Pulsed Drain Current | $I_{D(puls)}$ | 6 | A |
| Continuous Reverse Drain Current | I_{DR} | 2 | A |
| Gate-Source-Voltage | V_{GS} | ± 25 | V |
| Max. Power Dissipation | P_D | 30 | W |
| Operating and Storage Temperature Range | T_{ch} | 150 | $^\circ C$ |
| | T_{stg} | -55 ~ +150 | $^\circ C$ |

> **Equivalent Circuit**



- Electrical Characteristics ($T_C=25^\circ C$), unless otherwise specified

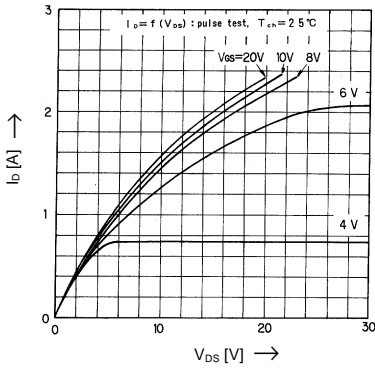
| Item | Symbol | Test conditions | Min. | Typ. | Max. | Unit |
|--|---------------|---|------|------|------|----------|
| Drain-Source Breakdown-Voltage | $V_{(BR)DSS}$ | $I_D=1mA$ $V_{GS}=0V$ | 600 | | | V |
| Gate Threshold Voltage | $V_{GS(th)}$ | $I_D=10mA$ $V_{DS}=V_{GS}$ | 2,1 | 3,0 | 4,0 | V |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS}=600V$ $T_{ch}=25^\circ C$ | | 10 | 500 | μA |
| | | $V_{GS}=0V$ $T_{ch}=125^\circ C$ | | 0,2 | 1,0 | mA |
| Gate Source Leakage Current | I_{GSS} | $V_{GS}=\pm 30V$ $V_{DS}=0V$ | | 10 | 100 | nA |
| Drain Source On-State Resistance | $R_{DS(on)}$ | $I_D=1A$ $V_{GS}=10V$ | | 5,5 | 6,5 | Ω |
| Forward Transconductance | g_{fs} | $I_D=1A$ $V_{DS}=25V$ | 1 | 1,8 | | S |
| Input Capacitance | C_{iss} | $V_{DS}=25V$ | | 270 | 400 | pF |
| Output Capacitance | C_{oss} | $V_{GS}=0V$ | | 32 | 48 | pF |
| Reverse Transfer Capacitance | C_{rss} | $f=1MHz$ | | 15 | 23 | pF |
| Turn-On-Time $t_{on} (t_{on}=t_{d(on)}+t_r)$ | $t_{d(on)}$ | $V_{CC}=300V$ | | 4 | 6 | ns |
| | t_r | $I_D=2A$ | | 12 | 18 | ns |
| Turn-Off-Time $t_{off} (t_{off}=t_{d(off)}+t_f)$ | $t_{d(off)}$ | $V_{GS}=10V$ | | 25 | 40 | ns |
| | t_f | $R_{GS}=25 \Omega$ | | 20 | 30 | ns |
| Diode Forward On-Voltage | V_{SD} | $I_F=2I_{DR}$ $V_{GS}=0V$ $T_{ch}=25^\circ C$ | | 0,92 | 1,41 | V |
| Reverse Recovery Time | t_{rr} | $I_F=I_{DR}$ $V_{GS}=0V$ | | 500 | | ns |
| | | $-di_F/dt=100A/\mu s$ $T_{ch}=25^\circ C$ | | | | |

- Thermal Characteristics

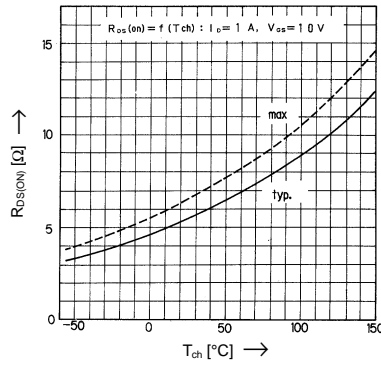
| Item | Symbol | Test conditions | Min. | Typ. | Max. | Unit |
|--------------------|----------------|-----------------|------|------|-------|--------------|
| Thermal Resistance | $R_{th(ch-a)}$ | channel to air | | | 62,5 | $^\circ C/W$ |
| | $R_{th(ch-c)}$ | channel to case | | | 4,167 | $^\circ C/W$ |

> Characteristics

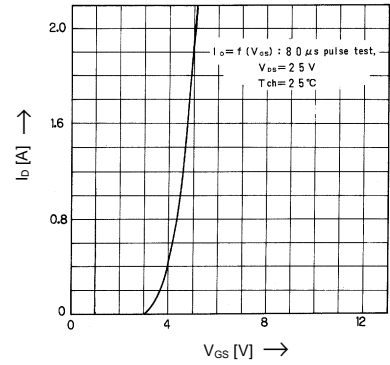
Typical Output Characteristics



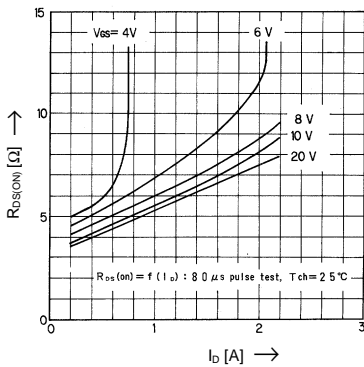
Drain-Source-On-State Resistance vs. T_{ch}



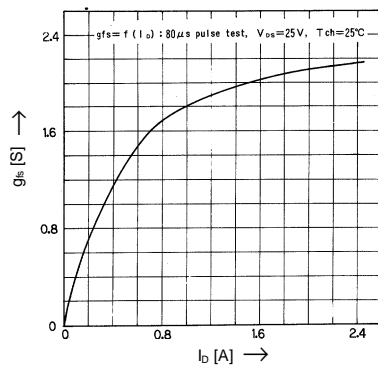
Typical Transfer Characteristics



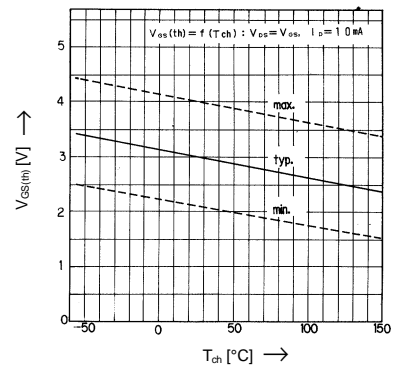
Typical Drain-Source-On-State-Resistance vs. I_D



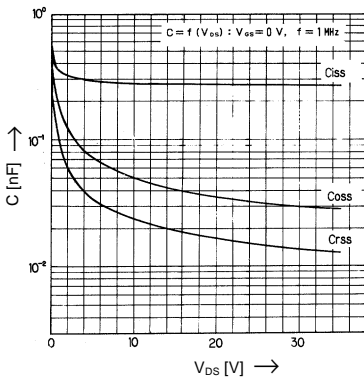
Typical Forward Transconductance vs. I_D



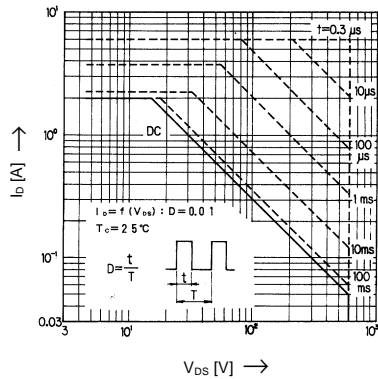
Gate Threshold Voltage vs. T_{ch}



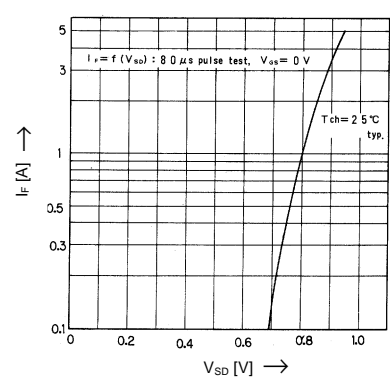
Typical Capacitance vs. V_{DS}



Safe operation area



Forward Characteristics of Reverse Diode



Allowable Power Dissipation vs. T_c

