



UF600

Power MOSFET

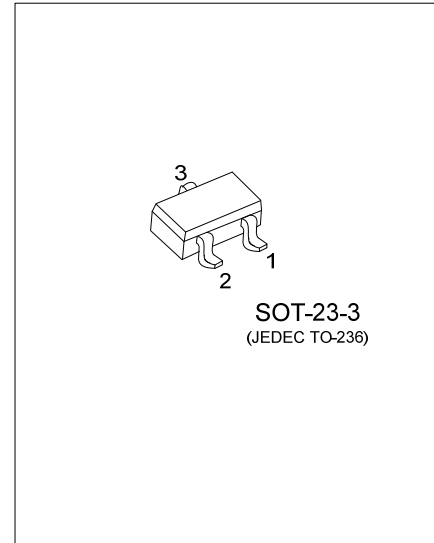
A, 600V, N-CHANNEL POWER MOSFET

DESCRIPTION

The UTC **UF600** is an N-channel Power MOSFET, it uses UTC's advanced technology to provide the customers with high switching speed and high breakdown voltage, etc.

FEATURES

- * $R_{DS(on)} < 1.2k\Omega$ @ $V_{GS}=0V, I_D=3mA$
- * $R_{DS(on)} < 1.8k\Omega$ @ $V_{GS}=10V, I_D=16mA$
- * High switching speed
- * high breakdown voltage



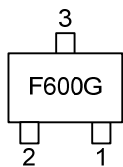
ORDERING INFORMATION

| Ordering Number | Package | Pin Assignment | | | Packing |
|-----------------|----------|----------------|---|---|-----------|
| | | 1 | 2 | 3 | |
| UF600G-AE2-R | SOT-23-3 | S | G | D | Tape Reel |

Note: Pin Assignment: G: Gate D: Drain S: Source

| | |
|--|---|
| <p>UF600G-AE2-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p> | <p>(1) R: Tape Reel</p> <p>(2) AE2: SOT-23-3</p> <p>(3) G: Halogen Free and Lead Free</p> |
|--|---|

MARKING



■ ABSOLUTE MAXIMUM RATINGS

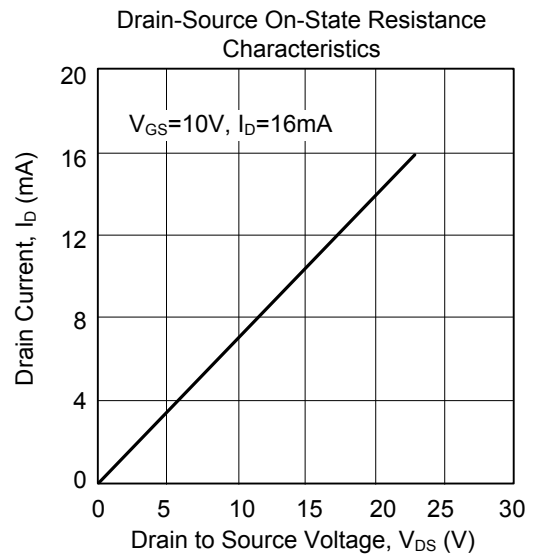
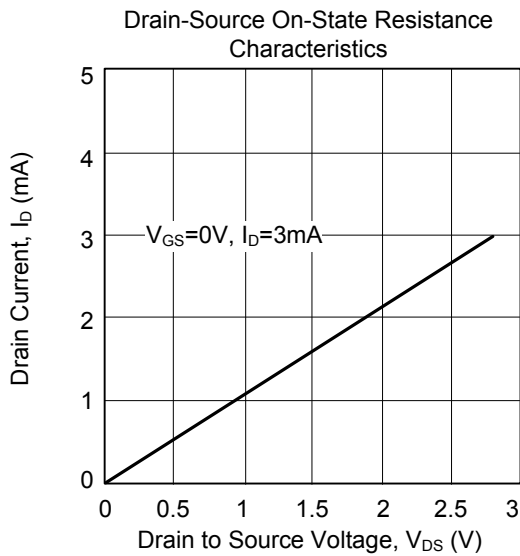
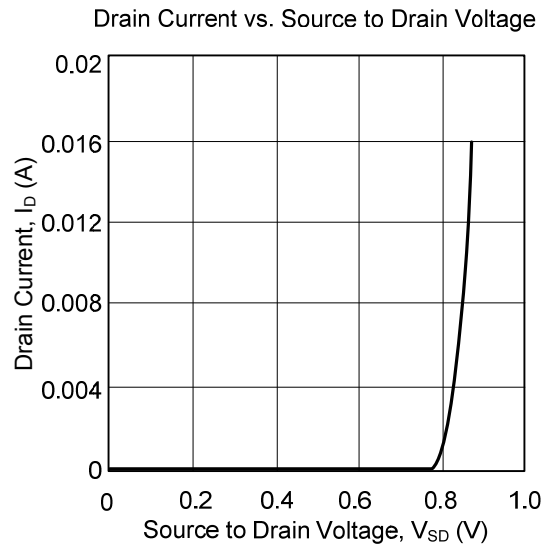
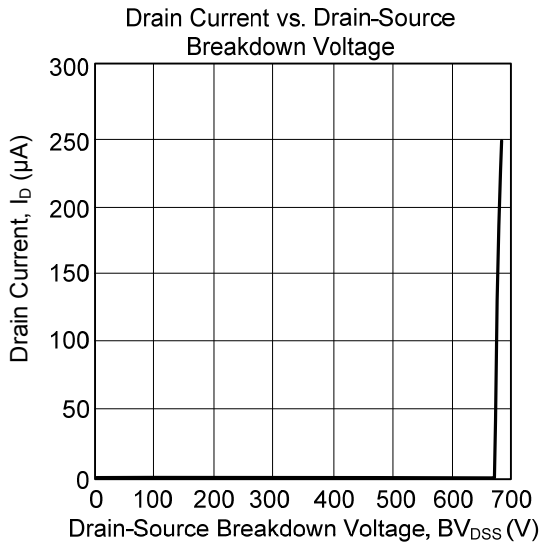
| PARAMETER | SYMBOL | RATINGS | UNIT |
|---------------------------|------------|----------|-------------|
| Drain-Source Voltage | V_{DSS} | 600 | V |
| Gate-Source Voltage | V_{GSS} | ± 20 | V |
| Drain Current | Continuous | I_D | 0.185 |
| | Pulsed | I_{DM} | 0.740 |
| Power Dissipation | P_D | 0.50 | W |
| Junction Temperature | T_J | +150 | $^{\circ}C$ |
| Storage Temperature Range | T_{STG} | -55~+150 | $^{\circ}C$ |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--|--------------|---|------|------|------|------------|
| OFF CHARACTERISTICS | | | | | | |
| Drain-Source Breakdown Voltage | BV_{DSS} | $I_D=250\mu A, V_{GS}=-5V$ | 600 | | | V |
| Drain-Source Leakage Current | I_{DSS} | $V_{DS}=480V$ | | | 90 | nA |
| | | $V_{DS}=540V$ | | | 90 | nA |
| Gate-Source Leakage Current | Forward | I_{GSS} | | | +90 | nA |
| | Reverse | | | | | |
| ON CHARACTERISTICS | | | | | | |
| Gate Threshold Voltage | $V_{GS(TH)}$ | $V_{DS}=3V, I_D=8\mu A$ | -2.7 | | -1.5 | V |
| Static Drain-Source On-State Resistance | $R_{DS(ON)}$ | $V_{GS}=0V, I_D=3mA$ | 0.05 | 0.9 | 1.2 | k Ω |
| | | $V_{GS}=10V, I_D=16mA$ | 0.05 | 1.4 | 1.8 | k Ω |
| DYNAMIC PARAMETERS | | | | | | |
| Input Capacitance | C_{ISS} | $V_{GS}=0V, V_{DS}=25V, f=1.0MHz$ | | 10 | | pF |
| Output Capacitance | C_{OSS} | | | 30 | | pF |
| Reverse Transfer Capacitance | C_{RSS} | | | 5 | | pF |
| SWITCHING PARAMETERS | | | | | | |
| Total Gate Charge | Q_G | $V_{GS}=-5\sim 5V, V_{DS}=25V, f=1.0MHz$ | | 1.29 | | nC |
| Gate to Source Charge | Q_{GS} | | | 0.1 | | nC |
| Gate to Drain Charge | Q_{GD} | | | 0.47 | | nC |
| Turn-ON Delay Time | $t_{D(ON)}$ | $V_{DD}=30V, I_D=5mA, R_G=25\Omega, V_{GS}=-5\sim 5V$ | | 30 | | ns |
| Rise Time | t_R | | | 55 | | ns |
| Turn-OFF Delay Time | $t_{D(OFF)}$ | | | 80 | | ns |
| Fall-Time | t_F | | | 265 | | ns |
| SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS | | | | | | |
| Drain-Source Diode Forward Voltage | V_{SD} | $I_{SD}=3mA$ | | | 1.38 | V |
| | | $I_{SD}=16mA$ | | | 4.58 | V |

TYPICAL CHARACTERISTICS



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