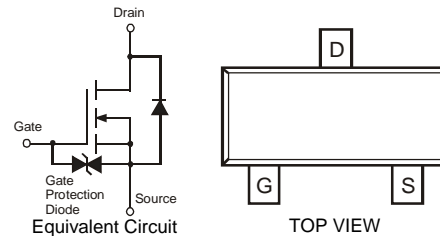


**Features**

- Low On-Resistance
  - 70mΩ @ V<sub>GS</sub> = 4.5V
  - 100mΩ @ V<sub>GS</sub> = 2.5V
  - 170mΩ @ V<sub>GS</sub> = 1.5V
- Very Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- **Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 2, 3 and 6)**
- **Qualified to AEC-Q101 Standards for High Reliability**
- **ESD Protected Gate**



SOT-23



**Mechanical Data**

- Case: SOT-23
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections: See Diagram
- Terminals: Finish — Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.008 grams (approximate)

**Maximum Ratings** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Drain-Source Voltage	V <sub>DSS</sub>	20	V
Gate-Source Voltage	V <sub>GSS</sub>	±12	V
Drain Current	I <sub>D</sub>	2.3	A
Pulsed Drain Current	I <sub>DM</sub>	8	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Units
Total Power Dissipation	P <sub>D</sub>	600	mW
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	208	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

**Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS</b>						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	20	28	—	V	V <sub>GS</sub> = 0V, I <sub>D</sub> = 10μA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	—	—	1	μA	V <sub>DS</sub> = 20V, V <sub>GS</sub> = 0V
Gate-Source Leakage	I <sub>GSS</sub>	—	—	±10	μA	V <sub>GS</sub> = ±12V, V <sub>DS</sub> = 0V
<b>ON CHARACTERISTICS</b>						
Gate Threshold Voltage	V <sub>GS(th)</sub>	0.45	—	1.0	V	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA
Static Drain-Source On-Resistance	R <sub>DS(ON)</sub>	—	50	70	mΩ	V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 3A
			70	100		V <sub>GS</sub> = 2.5V, I <sub>D</sub> = 2.3A
			125	170		V <sub>GS</sub> = 1.5V, I <sub>D</sub> = 0.5A
Forward Transfer Admittance	Y <sub>fs</sub>	—	6	—	S	V <sub>DS</sub> = 5V, I <sub>D</sub> = 2.4A
Diode Forward Voltage	V <sub>SD</sub>	—	0.7	0.9	V	V <sub>GS</sub> = 0V, I <sub>S</sub> = 1.05A
<b>DYNAMIC CHARACTERISTICS</b>						
Input Capacitance	C <sub>iss</sub>	—	217	—	pF	V <sub>DS</sub> = 10V, V <sub>GS</sub> = 0V f = 1.0MHz
Output Capacitance	C <sub>oss</sub>	—	62	—	pF	
Reverse Transfer Capacitance	C <sub>rss</sub>	—	34	—	pF	