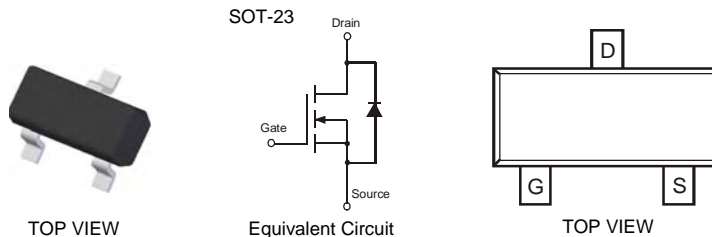


Features

- Low On-Resistance
 - 53mΩ @ V_{GS} = 4.5V
 - 104mΩ @ V_{GS} = 2.5V
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- **Lead, Halogen and Antimony Free, RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**

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_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Drain-Source Voltage	V _{DSS}	20	V
Gate-Source Voltage	V _{GSS}	±12	V
Drain Current (Note 3)	I _D	4.3	A
Pulsed Drain Current (Note 4)	I _{DM}	15	A

Thermal Characteristics

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 3)	P _D	1.4	W
Thermal Resistance, Junction to Ambient (Note 3)	R _{θJA}	90	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 5)						
Drain-Source Breakdown Voltage	BV _{DSS}	20	—	—	V	V _{GS} = 0V, I _D = 250μA
Zero Gate Voltage Drain Current	I _{DSS}	—	—	500	nA	V _{DS} = 20V, V _{GS} = 0V
Gate-Source Leakage	I _{GSS}	—	—	±100	nA	V _{GS} = ±12V, V _{DS} = 0V
ON CHARACTERISTICS (Note 5)						
Gate Threshold Voltage	V _{GS(th)}	0.45	—	1.4	V	V _{DS} = V _{GS} , I _D = 250μA
Static Drain-Source On-Resistance	R _{DS(on)}	—	42	53	mΩ	V _{GS} = 4.5V, I _D = 4.2A
			84	104		V _{GS} = 2.5V, I _D = 3.1A
Forward Transfer Admittance	Y _{fs}	—	6.6	—	S	V _{DS} = 5V, I _D = 4.2A
Diode Forward Voltage (Note 5)	V _{SD}	—	0.7	1.2	V	V _{GS} = 0V, I _S = 1.0A
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}	—	325	—	pF	V _{DS} = 10V, V _{GS} = 0V f = 1.0MHz
Output Capacitance	C _{oss}	—	92	—	pF	
Reverse Transfer Capacitance	C _{rss}	—	70	—	pF	

- Notes:
1. No purposefully added lead. Halogen and Antimony Free.
 2. Detail go to our website at www.twtysemi.com
 3. Device mounted on FR-4 PCB, on 2oz Copper pad layout with R_{θJA} = 90°C/W.
 4. Repetitive rating, pulse width limited by junction temperature.
 5. Short duration pulse test used to minimize self-heating effect.