

Features

- Dual N-Channel MOSFET
- Low On-Resistance
- Very Low Gate Threshold Voltage (1.0V max)
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- Small Surface Mount Package
- **Lead Free By Design/RoHS Compliant (Note 2)**
- **ESD Protected up to 2kV**
- **"Green" Device (Note 4)**
- **Qualified to AEC-Q101 standards for High Reliability**

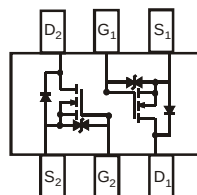


TOP VIEW



BOTTOM VIEW

SOT-26


 TOP VIEW
Internal Schematic

Mechanical Data

- Case: SOT-26
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminal Connections: See Diagram
- Terminals: Finish – Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 4
- Ordering Information: See Page 4
- Weight: 0.015 grams (approximate)

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Drain Source Voltage	V _{DSS}	50	V
Gate-Source Voltage	V _{GSS}	±20	V
Drain Current (Note 1)	I _D	305	mA
		800	mA
			Continuous Pulsed (Note 3)

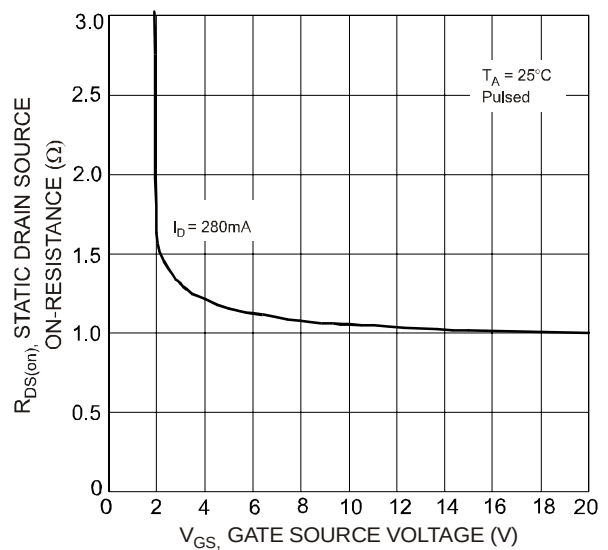
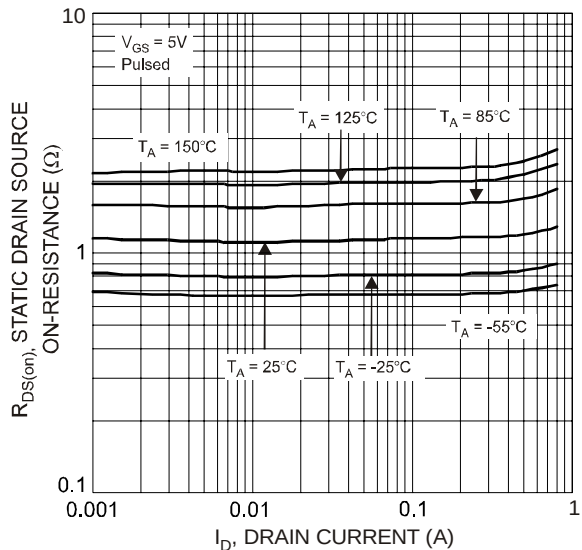
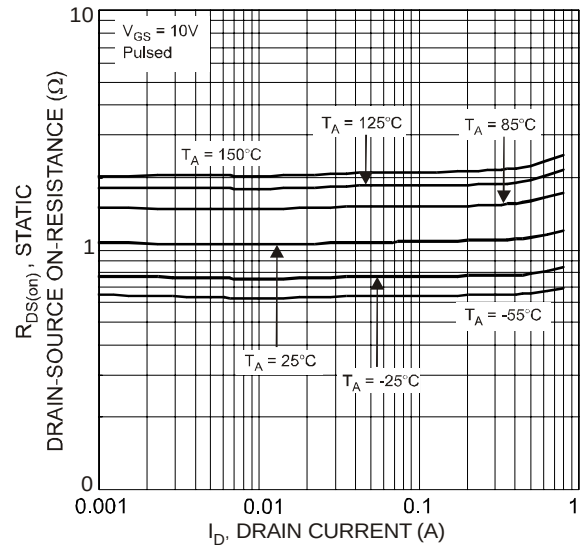
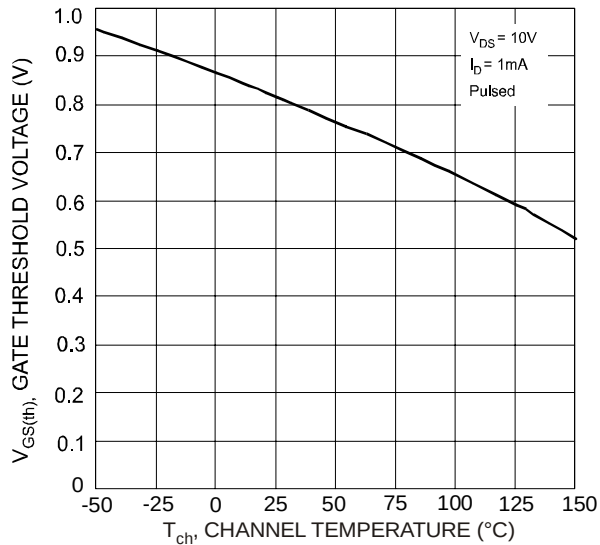
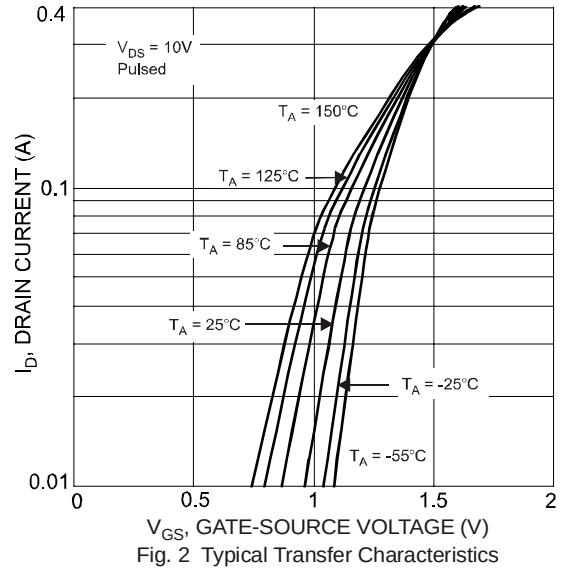
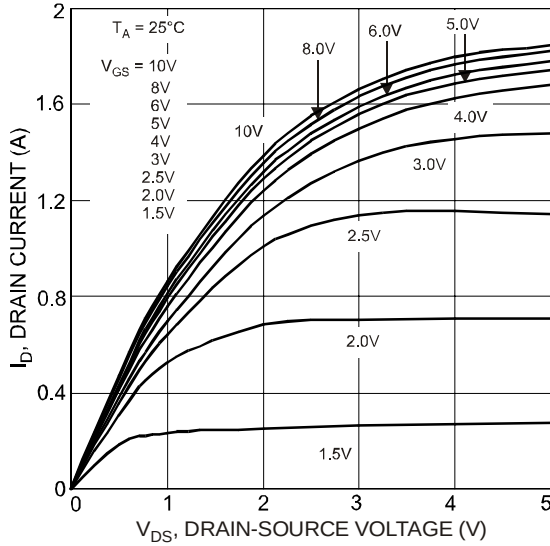
Thermal Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 1)	P _D	400	mW
Thermal Resistance, Junction to Ambient	R _{θJA}	313	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 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}	50	—	—	V	V _{GS} = 0V, I _D = 10μA
Zero Gate Voltage Drain Current @ T _C = 25°C	I _{DSS}	—	—	60	nA	V _{DS} = 50V, V _{GS} = 0V
Gate-Body Leakage	I _{GSS}	—	—	1	μA	V _{GS} = ±12V, V _{DS} = 0V
				500	nA	V _{GS} = ±10V, V _{DS} = 0V
				50	nA	V _{GS} = ±5V, V _{DS} = 0V
ON CHARACTERISTICS (Note 5)						
Gate Threshold Voltage	V _{GS(th)}	0.49	—	1.0	V	V _{DS} = V _{GS} , I _D = 250μA
Static Drain-Source On-Resistance	R _{DS (ON)}	—	—	3.0	Ω	V _{GS} = 1.8V, I _D = 50mA
		—	—	2.5		V _{GS} = 2.5V, I _D = 50mA
		—	—	2.0		V _{GS} = 5.0V, I _D = 50mA
On-State Drain Current	I _{D(ON)}	0.5	1.4	—	A	V _{GS} = 10V, V _{DS} = 7.5V
Forward Transconductance	Y _{fs}	200	—	—	mS	V _{DS} = 10V, I _D = 0.2A
Source-Drain Diode Forward Voltage	V _{SD}	0.5	—	1.4	V	V _{GS} = 0V, I _S = 115mA
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}	—	—	50	pF	V _{DS} = 25V, V _{GS} = 0V f = 1.0MHz
Output Capacitance	C _{oss}	—	—	25	pF	
Reverse Transfer Capacitance	C _{rss}	—	—	5.0	pF	

- Notes:
1. Device mounted on FR-4 PCB.
 2. No purposefully added lead.
 3. Pulse width ≤10μs, Duty Cycle ≤1%.
 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 5. Short duration pulse test used to minimize self-heating effect.



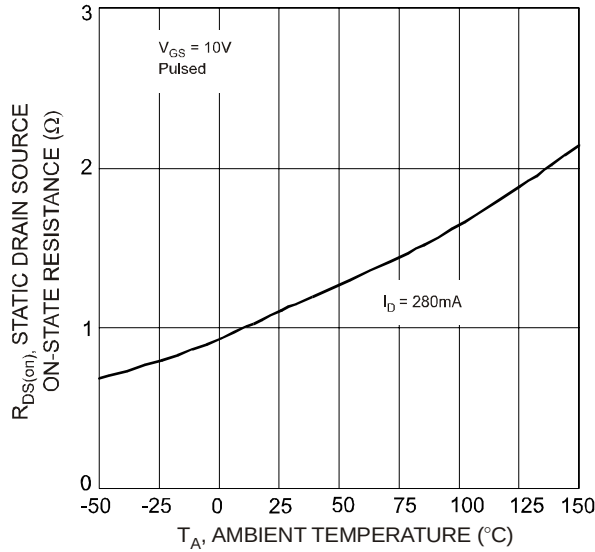


Fig. 7 Static Drain-Source On-State Resistance vs. Ambient Temperature

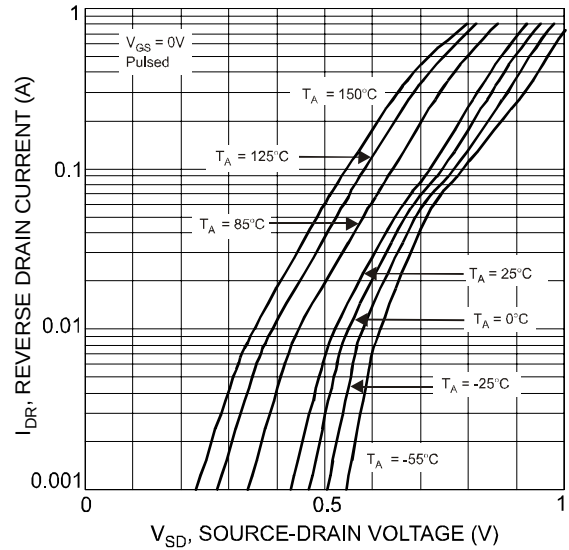


Fig. 8 Reverse Drain Current vs. Source-Drain Voltage

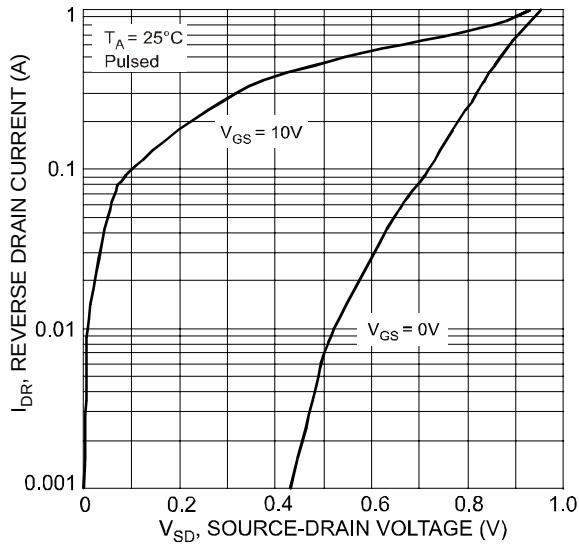


Fig. 9 Reverse Drain Current vs. Source-Drain Voltage

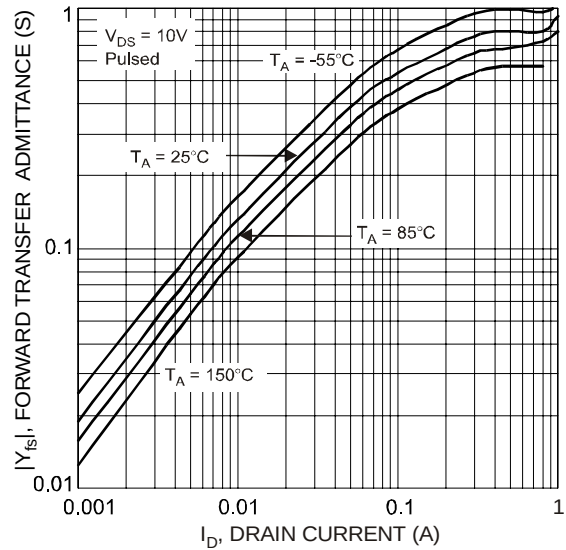


Fig. 10 Forward Transfer Admittance vs. Drain Current

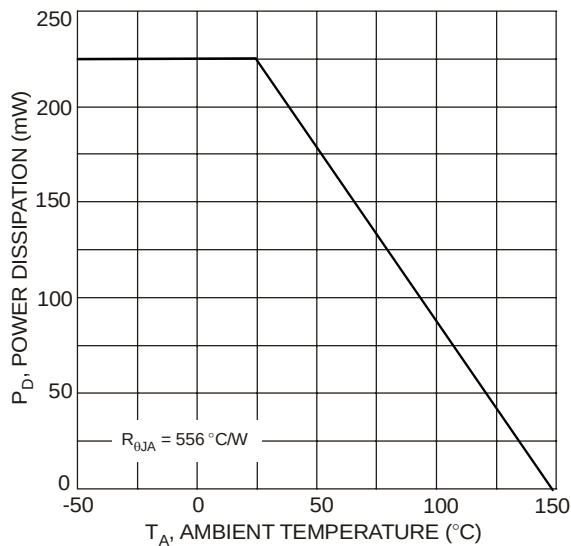


Fig. 11 Derating Curve - Total

