

DMN2112SN

N-CHANNEL ENHANCEMENT MODE FIELD EFFECT TRANSISTOR

Features

- Low On-Resistance
- Ideal for Notebook Computer, Portable Phone, PCMCIA Cards, and Battery Powered Circuits
- **Lead Free By Design/RoHS Compliant (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**
- **ESD Protected Gate**
- **"Green" Device (Note 3)**

Mechanical Data

- Case: SC59
- Case Material - Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Weight: 0.014 grams (approximate)

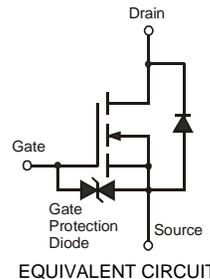


ESD Protected

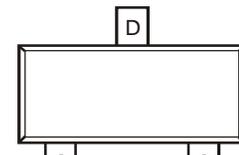


TOP VIEW

SC59



EQUIVALENT CIRCUIT



TOP VIEW
Pin Out Configuration

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Units
Drain-Source Voltage		V _{DSS}	20	V
Gate-Source Voltage	Continuous	V _{GSS}	± 8	V
Drain Current	Continuous	I _D	1.2	A
	Pulsed		4.0	

Thermal Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Total Power Dissipation	P _d	500	mW
Thermal Resistance, Junction to Ambient	R _{θJA}	250	°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 1)						
Drain-Source Breakdown Voltage	BV _{DSS}	20	—	—	V	V _{GS} = 0V, I _D = 250µA
Zero Gate Voltage Drain Current	I _{DSS}	—	—	10	µA	V _{DS} = 20V, V _{GS} = 0V
Gate-Body Leakage	I _{GSS}	—	—	± 10	µA	V _{GS} = ± 8V, V _{DS} = 0V
ON CHARACTERISTICS (Note 1)						
Gate Threshold Voltage	V _{GS(th)}	0.5	—	1.2	V	V _{DS} = 10V, I _D = 1.0mA
Static Drain-Source On-Resistance	R _{DS(ON)}	—	—	0.10	Ω	V _{GS} = 4.5V, I _D = 0.5A
				0.14		
				0.25		
Forward Transfer Admittance	Y _{fs}	—	4.2	—	S	V _{DS} = 10V, I _D = 0.5A
Diode Forward Voltage	V _{SD}	—	0.8	1.1	V	V _{GS} = 0V, I _S = 1A
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}	—	220	—	pF	V _{DS} = 10V, V _{GS} = 0V f = 1.0MHz
Output Capacitance	C _{oss}	—	120	—	pF	
Reverse Transfer Capacitance	C _{rss}	—	45	—	pF	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	t _{D(ON)}	—	10	—	ns	V _{DD} = 5V, I _D = 0.5A, V _{GS} = 10V, R _{GEN} = 50Ω
Turn-Off Delay Time	t _{D(OFF)}	—	75	—	ns	
Turn-On Rise Time	t _r	—	15	—	ns	
Turn-Off Fall Time	t _f	—	65	—	ns	

Notes: 1. Pulse width ≤ 300µs, duty cycle ≤ 2%.
2. No purposefully added lead.