

DMN3200U

N-CHANNEL ENHANCEMENT MODE FIELD EFFECT TRANSISTOR

Features

- Low On-Resistance
 - 90 m Ω @ V_{GS} = 4.5V
 - 110 m Ω @ V_{GS} = 2.5V
 - 200 m Ω @ $V_{GS} = 1.5V$
- Very Low Gate Threshold Voltage
- Low Input Capacitance
- ESD Protected Gate
- Fast Switching Speed
- Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 2, 3 and 5)
- Qualified to AEC-Q101 Standards for High Reliability

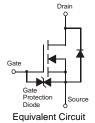
Mechanical Data

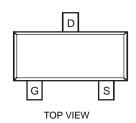
- Case: SOT-23
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections: See Diagram
- Terminals: Finish Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208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





SOT-23





Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Drain-Source Voltage	V _{DSS}	30	V
Gate-Source Voltage	V _{GSS}	±8	V
Drain Current (Note 1)	I _D	2.2	А
Pulsed Drain Current (Note 1)	I _{DM}	9	А

Thermal Characteristics @TA = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 1)	P_{D}	650	mW
Thermal Resistance, Junction to Ambient	$R_{ hetaJA}$	192	°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	Тур	Max	Unit	Test Condition	
OFF CHARACTERISTICS (Note 4)							
Drain-Source Breakdown Voltage	BV _{DSS}	30	_	_	V	$V_{GS} = 0V, I_D = 250\mu A$	
Zero Gate Voltage Drain Current	I _{DSS}	_		1	μΑ	$V_{DS} = 30V, V_{GS} = 0V$	
Gate-Source Leakage	I _{GSS}	_		±5	μΑ	$V_{GS} = \pm 8V, V_{DS} = 0V$	
ON CHARACTERISTICS (Note 4)							
Gate Threshold Voltage	V _{GS(th)}	0.45		1.0	>	$V_{DS} = V_{GS}, I_D = 250 \mu A$	
Static Drain-Source On-Resistance	R _{DS (ON)}		62 70 150	90 110 200	mΩ	$V_{GS} = 4.5V, I_D = 2.2A$	
						$V_{GS} = 2.5V, I_D = 2A$	
						$V_{GS} = 1.5V, I_D = 0.67A$	
Forward Transfer Admittance	Y _{fs}	_	5	_	S	$V_{DS} = 5V, I_D = 2.2A$	
Diode Forward Voltage (Note 4)	V_{SD}	_		0.9	V	$V_{GS} = 0V, I_{S} = 1A$	
DYNAMIC CHARACTERISTICS		a.	-	a.	-		
Input Capacitance	C _{iss}	_	290	_	pF	101/1/	
Output Capacitance	Coss	_	66	_	pF	$V_{DS} = 10V, V_{GS} = 0V$ - f = 1.0MHz	
Reverse Transfer Capacitance	C_{rss}	_	35	_	pF		

Notes:

- 1. Device mounted on FR-4 PCB, on minimum recommended pad layout on 2oz. Copper pads.
- 2. No purposefully added lead. Halogen and Antimony Free.
- 3. Short duration pulse test used to minimize self-heating effect.
- 4. Product manufactured with Green Molding Compound and does not contain Halogens or Sb₂O₃ Fire Retardants.