

N-Channel MOSFET

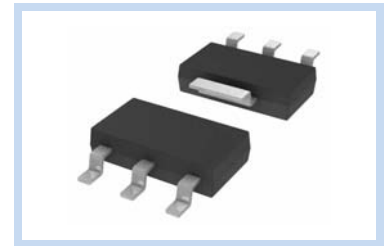
200V 2A 3W SOT-223

MFT201N2S223

MERITEK

FEATURE

- Operating temperature: -55 ~ +150 °C
- Rugged Construction Design
- High dense cell design for extremely low RDS(ON)



MAXIMUM RATINGS

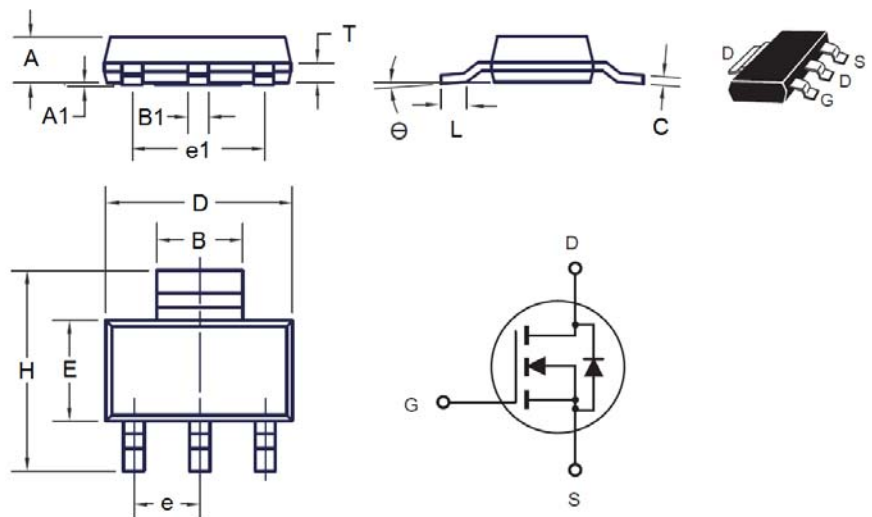
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	200	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current – Continuous	I_D	2	A
Drain Current – Pulsed	I_{DM}	8	A
Power Dissipation Note 1	P_D	3	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	42	°C/W

Notes:

1. Repetitive rating, pulse width limited by maximum junction temperature
2. $T_A=25^\circ\text{C}$ unless otherwise specified

DIMENSIONS

Item	Min (mm)	Max (mm)
A	1.50	1.70
A1	0.02	0.10
B	2.95	3.20
B1	0.67	0.80
C	0.24	0.35
D	6.30	6.85
e	2.30 TYP	
e1	4.60 TYP	
E	3.30	3.80
H	6.70	7.30
L	0.90	--
T	0.60	0.80
θ	10° Max	



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ELECTRICAL CHARACTERISTICS

Static Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=250\mu A$	BV_{DSS}	200	--	--	V
Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	$V_{GS(th)}$	2	--	4	V
Gate Leakage Current, Forward	$V_{DS}=0V$, $V_{GS}=20V$	I_{GSSF}	--	--	100	nA
Gate Leakage Current, Reverse	$V_{DS}=0V$, $V_{GS}=-20V$	I_{GSSR}	--	--	-100	
Zero Gate Voltage Drain Current	$V_{DS}=160V$, $V_{GS}=0V$	I_{DSS}	--	--	25	μA
Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=1A$	$R_{DS(ON)}$	--	0.30	0.36	Ω
Dynamic Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Total Gate Charge	$V_{DS}=80V$, $V_{GS}=10V$, $I_D=18A$	Q_g	--	--	--	nC
Gate-Source Charge		Q_{gs}	--	--	--	
Gate-Drain Charge		Q_{gd}	--	--	--	
Turn-On Delay Time	$V_{DD}=50V$, $R_{GEN}=5.1\Omega$ $I_D=18A$, $V_{GS}=10V$	$T_{d(on)}$	--	--	--	nS
Rise Time		T_r	--	--	--	
Turn-Off Delay Time		$T_{d(off)}$	--	--	--	
Fall Time		T_f	--	--	--	
Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$ $f=1.0MHz$	C_{iss}	--	--	--	pF
Output Capacitance		C_{oss}	--	--	--	
Reverse Transfer Capacitance		C_{rss}	--	--	--	
Drain-Source Diode Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Drain-Source Diode Forward Current	--	I_S	--	--	1	A
Drain-Source Diode Forward Voltage Note 2	$I_S=1A$, $V_{GS}=0V$	V_{SD}	--	--	1.5	V

Note:

- $T_C = 25^\circ C$ unless otherwise noted
- Pulse Test : Pulse Width < 300 μs , Duty Cycle < 2%
- Guaranteed by design, not subject to production testing.

*Specifications subject to change without notice.