

N-Channel MOSFET

200V 2.7A 48W PPAK5X6

MFT201N2A7P56

MERITEK

FEATURE

- Operating temperature: -55 ~ +150 °C
- Super high dense cell design for extremely low RDS(ON)
- High power and current handling capability
- Improved dv/dt capability
- Fast switching



MAXIMUM RATINGS

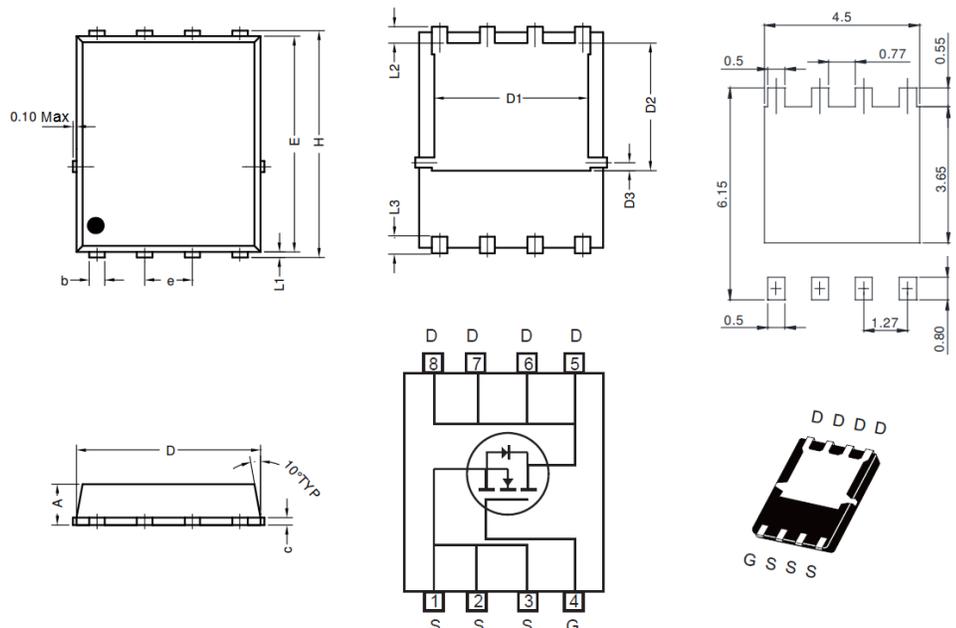
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	200	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current – Continuous, Junction to Ambient $R_{\theta JA}$	I_D	2.7	A
Drain Current – Continuous, Junction to Case $R_{\theta JC}$	I_D	7.3	A
Drain Current – Pulsed, Junction to Ambient $R_{\theta JA}$ Note 2	I_{DM}	10.8	A
Drain Current – Pulsed, Junction to Case $R_{\theta JC}$ Note 2	I_{DM}	29.2	A
Maximum Power Dissipation	P_D	48	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.6	°C/W
Thermal Resistance, Junction to Ambient Note 3	$R_{\theta JA}$	20	°C/W

Note:

1. $T_C = 25$ °C unless otherwise specified
2. Repetitive Rating, Pulse width limited by maximum junction temperature
3. Surface mounted on FR4 board, $t < 10$ Sec

DIMENSIONS

Item	Min (mm)	Max (mm)
A	0.80	1.17
b	0.34	0.49
c	0.20	0.34
D	4.80	5.10
D1	3.80	4.20
D2	3.18	3.50
D3	0.15	0.36
E	5.65	5.90
E1	5.70	5.90
e	1.27TYP	
H	5.90	6.15
L1	0.05	0.25
L2	0.38	0.62
L3	0.38	0.80



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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	$V_{GS}=10V, I_D=3.5A$	$R_{DS(ON)}$	--	0.30	0.36	Ω
Dynamic Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Total Gate Charge	$V_{DS}=160V, V_{GS}=10V, I_D=5.9A$	Q_g	--	19	--	nC
Gate-Source Charge		Q_{gs}	--	3	--	
Gate-Drain Charge		Q_{gd}	--	5	--	
Turn-On Delay Time	$V_{DD}=100V, R_{GEN}=50\Omega, I_D=5A, V_{GS}=10V$	$T_{d(on)}$	--	24	--	nS
Rise Time		T_r	--	15	--	
Turn-Off Delay Time		$T_{d(off)}$	--	116	--	
Fall Time		T_f	--	25	--	
Input Capacitance	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$	C_{iss}	--	930	--	pF
Output Capacitance		C_{oss}	--	130	--	
Reverse Transfer Capacitance		C_{rss}	--	25	--	
Drain-Source Diode Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Drain-Source Diode Forward Current	--	I_S	--	--	7.3	A
Drain-Source Diode Forward Voltage <small>Note 2</small>	$I_S=1A, V_{GS}=0V$	V_{SD}	--	--	1.5	V

Note:

1. $T_C = 25^\circ C$ unless otherwise specified
2. Pulse Test, Pulse Width <300 μs , Duty Cycle <2%

*Specifications subject to change without notice.