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TPNTMFS4C05NT1G

N-Channel 30V(D-S) Enhancement MOSFET

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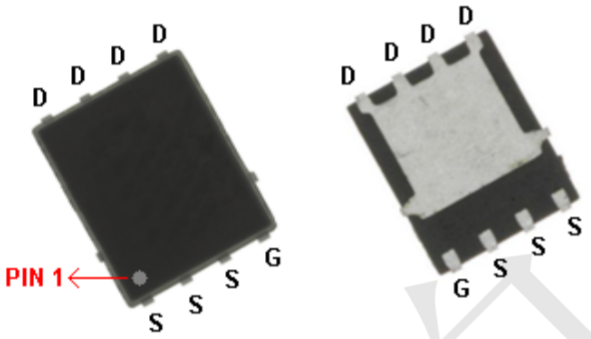
Product Summary

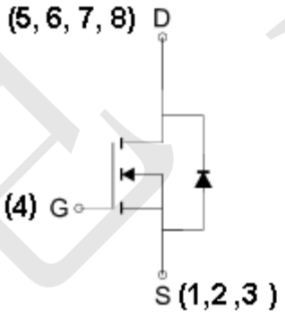
- V_{DS} = 30V I_D =150A
- $R_{DS(ON)}$≤2.5mΩ@V_{GS}=10V
- $R_{DS(ON)}$≤3.3mΩ@V_{GS}=4.5V

Application

- Load/Power switch
- Interfacing, logic switching
- Battery management for ultra protable
- electronics

PowerDFN 5x6





N-Channel MOSFET

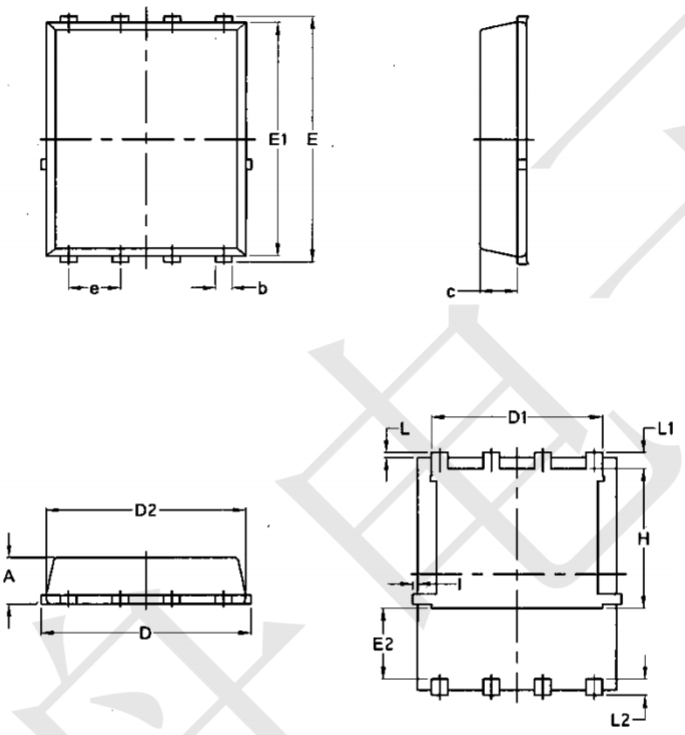
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter		Symbol	Maximum Ratings		Unit
Drain-Source Voltage		V_{DS}	30		V
Gate-Source Voltage		V_{GS}	±20		V
Continuous Drain	T_C=25℃		150		A
	T_C=100℃		100		
Pulsed Drain Current		I_{DM}	350		A
Maximum Power Dissipation*	T_A=25℃	P_D	75		W
	T_A=100℃		30		
Operating Junction Temperature		T_J	-55 to 150		℃
Thermal Resistance-Junction to Ambient*		$R_{\theta JA}$	Steady State	45	℃/W
Thermal Resistance-Junction to Case*		$R_{\theta JC}$	3.3		℃/W

Electrical Characteristics (T =25°C unless otherwise specified)

Symbol	Parameter	Limit	Min	Typ	Max	Unit
STATIC						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250μA	30			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=250μA	1.3		3.0	V
I_{GSS}	Gate Leakage Current	V_{DS}=0V, V_{GS}=±20V			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=30V, V_{GS}=0V			1	μA
$R_{DS(ON)}$	Drain-Source On-State Resistance[a]	V_{GS}=10V, I_D=27A		1.9	2.5	mΩ
		V_{GS}=4.5V, I_D=20A		2.5	3.3	
V_{SD}	Diode Forward Voltage	I_S=2.8A, V_{GS}=0V		0.75	1.1	V
DYNAMIC						
Qg	Total Gate Charge	V_{DS}=15V, V_{GS}=4.5V, I_D=27A		58		nC
Qgs	Gate-Source Charge			23		
Qgd	Gate-Drain Charge			30		
Ciss	Input Capacitance	V_{DS}=15V, V_{GS}=0V, F=1MHz		5930		pF
Coss	Output Capacitance			660		
Crss	Reverse Transfer Capacitance			220		
Rg	Gate-Resistance	V_{DS}=0V, V_{GS}=0V, F=1MHz		0.85		Ω
$t_{d(on)}$	Turn-On Delay Time	V_{DD}=15V, R_L=15Ω, I_D=1A, V_{GEN}=10V, R_G=6Ω		36		Ns
t_r	Turn-On Rise Time			23		
$t_{d(off)}$	Turn-Off Delay Time			170		
t_f	Turn-Off Fall Time			44		

Package Outline Dimensions PDFN5*6-8L



Symbol	Common			
	mm		Inch	
	Mim	Max	Min	Max
A	1.03	1.17	0.0406	0.0461
b	0.34	0.48	0.0134	0.0189
c	0.824	0.0970	0.0324	0.082
D	4.80	5.40	0.1890	0.2126
D1	4.11	4.31	0.1618	0.1697
D2	4.80	5.00	0.1890	0.1969
E	5.95	6.15	0.2343	0.2421
E1	5.65	5.85	0.2224	0.2303
E2	1.60	/	0.0630	/
e	1.27 BSC		0.05 BSC	
L	0.05	0.25	0.0020	0.0098
L1	0.38	0.50	0.0150	0.0197
L2	0.38	0.50	0.0150	0.0197
H	3.30	3.50	0.1299	0.1378
I	/	0.18	/	0.0070