

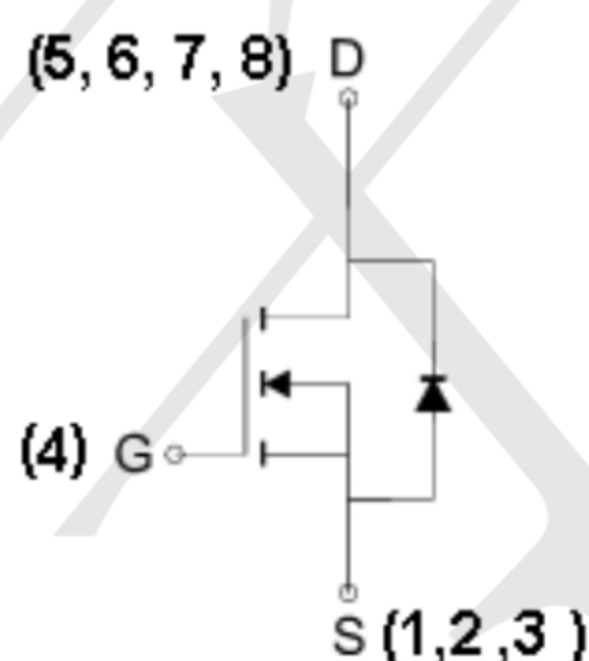
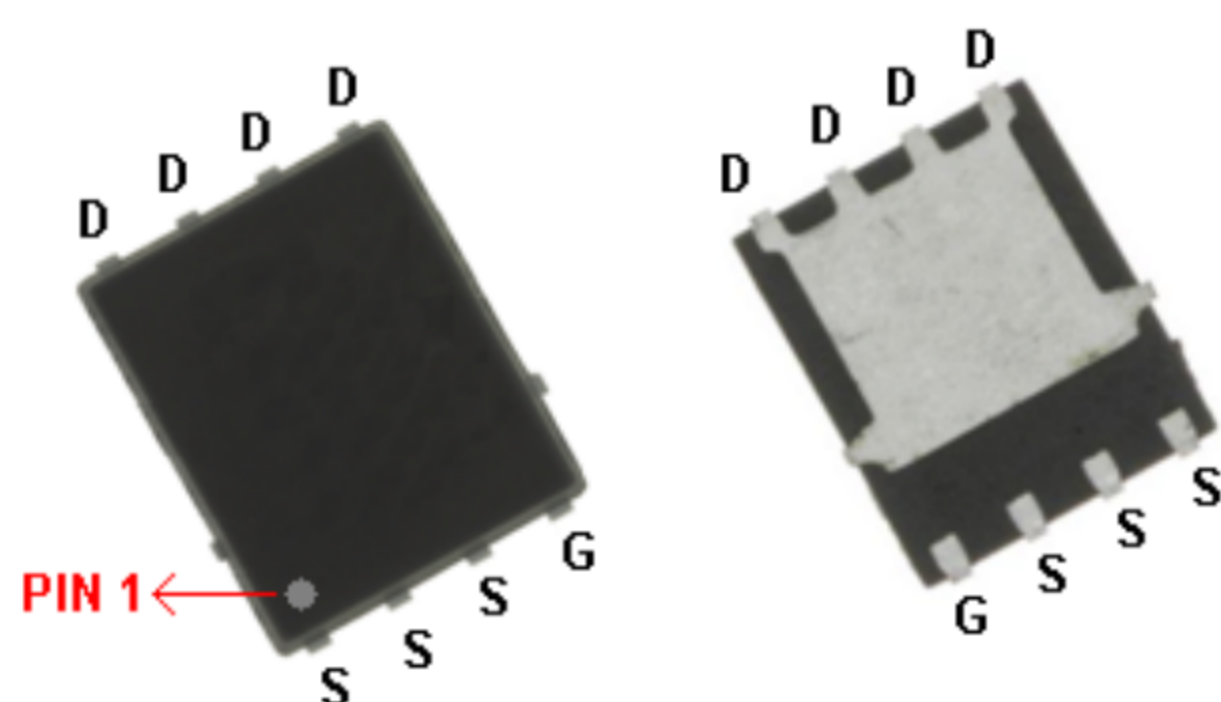
Product Summary

- ◆ $V_{DS} = 30V$ $I_D = 150A$
- ◆ $R_{DS(ON)} \leq 2.5m\Omega @ V_{GS}=10V$
- ◆ $R_{DS(ON)} \leq 3.3m\Omega @ V_{GS}=4.5V$

Application

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

PowerDFN 5x6



N-Channel MOSFET

Marking:150N03

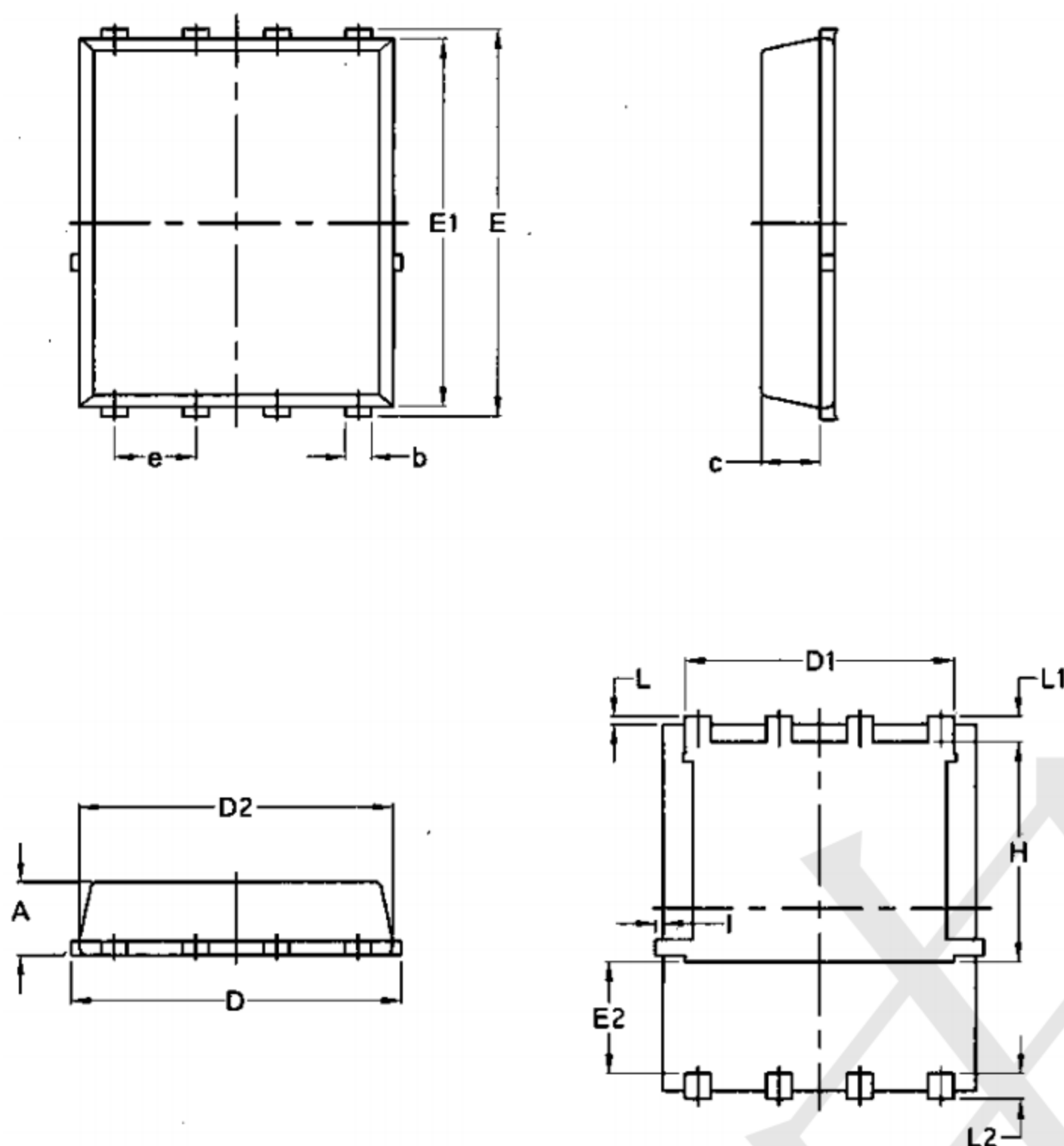
Absolute Maximum Ratings ($T_A=25^\circ C$ unless otherwise specified)

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 _{θJA}	Steady State	45	℃/W
Thermal Resistance-Junction to Case*		R _{θJC}	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	$V_{GS}=0V, I_D=250 \mu A$	30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250 \mu A$	1.3		3.0	V
I_{GSS}	Gate Leakage Current	$V_{DS}=0V, V_{GS}=\pm 20V$			± 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	m Ω
		$V_{GS}=4.5V, I_D=20A$		2.5	3.3	
V_{SD}	Diode Forward Voltage	$I_S=2.8A, V_{GS}=0V$		0.75	1.1	V
DYNAMIC						
Q_g	Total Gate Charge	$V_{DS}=15V, V_{GS}=4.5V, I_D=27A$		58		nC
Q_{gs}	Gate-Source Charge			23		
Q_{gd}	Gate-Drain Charge			30		
C_{iss}	Input Capacitance	$V_{DS}=15V, V_{GS}=0V, F=1MHz$		5930		pF
C_{oss}	Output Capacitance			660		
C_{rss}	Reverse Transfer Capacitance			220		
R_g	Gate-Resistance	$V_{DS}=0V, V_{GS}=0V, F=1MHz$		0.85		Ω
$t_{d(on)}$	Turn-On Delay Time	$V_{DD}=15V, R_L=15 \Omega$ $I_D=1A, V_{GEN}=10V$ $R_G=6 \Omega$		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