Product Summary
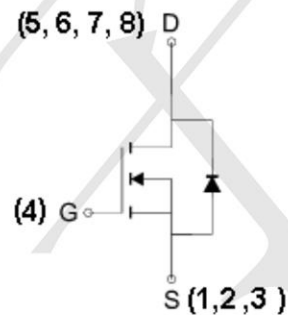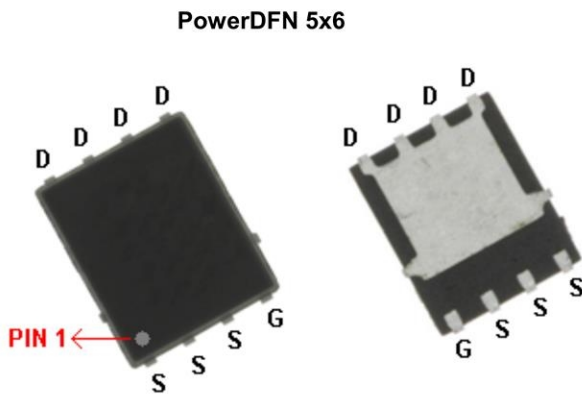
◆ V_{DS} = 30V I_D =150 A

● $R_{DS(ON)} \leqq 2.5m\Omega @V_{GS}$=10V

● $R_{DS(ON)} \leqq 3.3m\Omega @V_{GS}$=4.5V

Application

◆ Load/Power switch

◆ Interfacing, logic switching

◆ Battery management for ultra protable

◆ electronics

PowerDFN 5x6

PIN 1 ←

Marking:150N03

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°C		150		A
	T_C=100°C		100		
Pulsed Drain Current		I_{DM}	350		A
Maximum Power Dissipation*	T_A=25°C	P_D	75		W
	T_A=100°C		30		
Operating Junction Temperature		T_J	-55 to 150		°C
Thermal Resistance-Junction to Ambient*		$R_{\theta JA}$	Steady State	45	°C/W
Thermal Resistance-Junction to Case*		$R_{\theta JC}$	3.3		°C/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	$V_{DS}=0V$, $V_{GS}=\pm20V$			±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	$m\Omega$
		$V_{GS}=4.5V$, $I_D=20A$		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	$V_{DD}=15V$, $R_L=15\Omega$ $I_D=1A$, $V_{GEN}=10V$ $R_G=6\Omega$		36		Ns
tr	Turn-On Rise Time			23		
$t_{d(off)}$	Turn-Off Delay Time			170		
tf	Turn-Off Fall Time			44		

Package Outline Dimensions PDFN5*6-8L
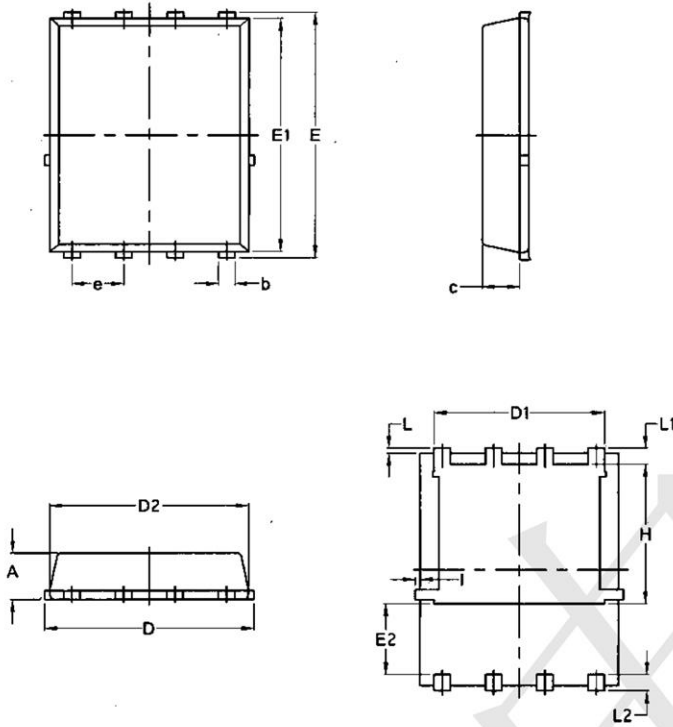
Symbol	Common			
	mm		Inch	
	Mim	Max	Min	Max
A	1.03	1.17	0.0406	0.0461
b	0.34	0.48	0.0134	0.0189
c	0.824	0.0970	0.0324	0.082
D	4.80	5.40	0.1890	0.2126
D1	4.11	4.31	0.1618	0.1697
D2	4.80	5.00	0.1890	0.1969
E	5.95	6.15	0.2343	0.2421
E1	5.65	5.85	0.2224	0.2303
E2	1.60	/	0.0630	/
e	1.27 BSC		0.05 BSC	
L	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