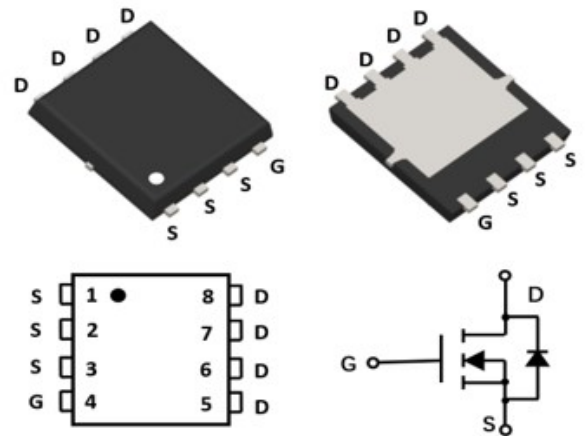


MOSFET (N-CHANNEL)
FEATURES

- Low on-resistance
- Fast switching speed
- Easily designed drive circuits
- Easy to parallel

PDFN 5X6

MECHANICAL DATA

- Case: PDFN5x6
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.016 grams (approximate)

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	30	V
V _{GS}	Gate-Source Voltage	±20	V
I _D @T _C =25°C	Continuous Drain Current ¹	50	A
I _D @T _C =100°C	Continuous Drain Current ¹	30	A
I _{DM}	Pulsed Drain Current ²	112	A
EAS	Single Pulse Avalanche Energy ³	24	mJ
I _{AS}	Avalanche Current	22	A
P _D @T _C =25°C	Total Power Dissipation ⁴	37	W
T _{STG}	Storage Temperature Range	-55 to 150	°C
T _J	Operating Junction Temperature Range	-55 to 150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	30	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance ²	V _{GS} =10 V, I _D =20A		6.8	8.5	mΩ
		V _{GS} =4.5V, I _D =20A		9.3	14	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	1.0	1.5	3.0	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =30V, V _{GS} =0V, T _J =25°C	---	---	1	uA
		V _{DS} =24V, V _{GS} =0V, T _J =125°C	---	---	10	
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V, V _{DS} =0V	---	---	±100	nA
R _g	Gate Resistance	V _{DS} =0V, V _{GS} =0V, f=1MHz	---	1.8	---	Ω
Q _g	Total Gate Charge (10V)	V _{DS} =15V, V _{GS} =10V, I _D =20A	---	9.8	---	nC
Q _{gs}	Gate-Source Charge		---	4.2	---	
Q _{gd}	Gate-Drain Charge		---	3.6	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} =15V, V _{GS} =10V, R _G =3Ω, I _D =15A	---	4	---	ns
T _r	Rise Time		---	8	---	
T _{d(off)}	Turn-Off Delay Time		---	30	---	
T _f	Fall Time		---	4	---	
C _{iss}	Input Capacitance	V _{DS} =15V, V _{GS} =0V, f=1MHz	---	940	---	pF
C _{oss}	Output Capacitance		---	130	---	
C _{rss}	Reverse Transfer Capacitance		---	110	---	

MOSFET (N-CHANNEL)

Typical Characteristics

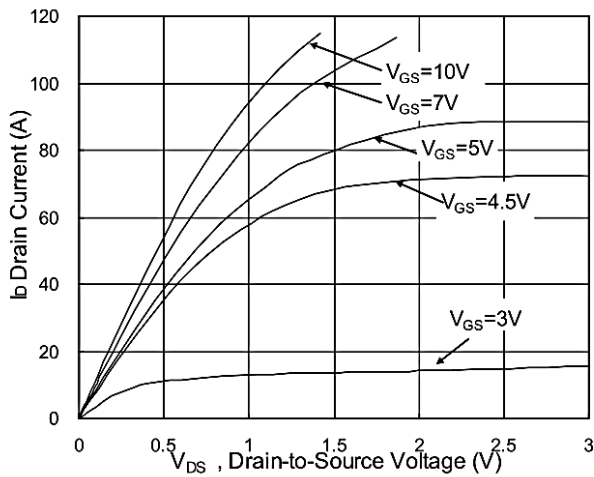


Fig.1 Typical Output Characteristics

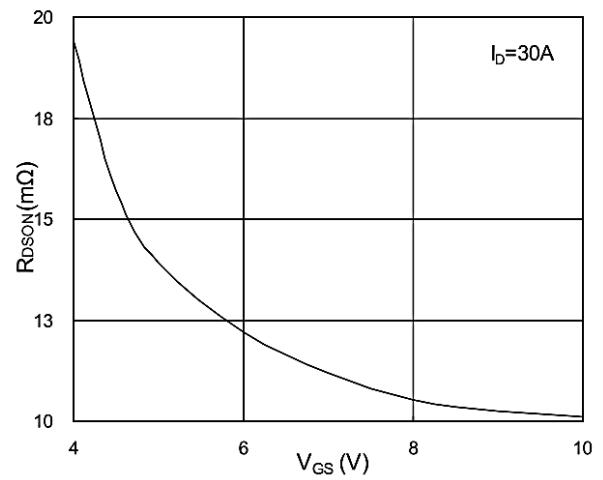


Fig.2 On-Resistance vs. G-S Voltage

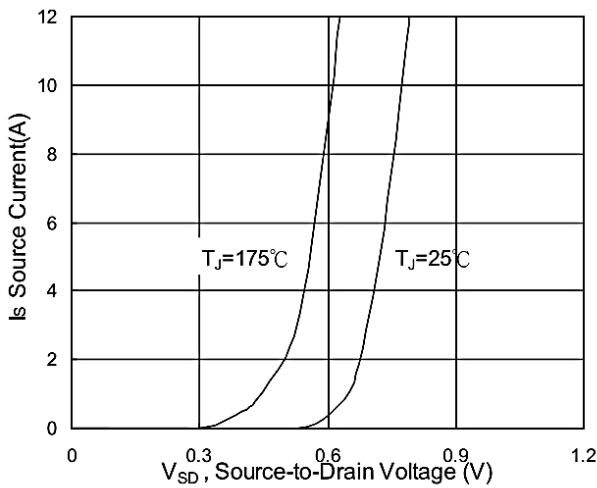


Fig.3 Forward Characteristics of Reverse

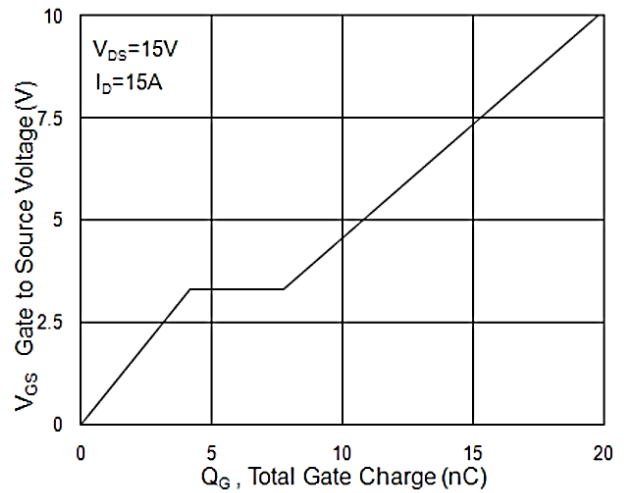


Fig.4 Gate-Charge Characteristics

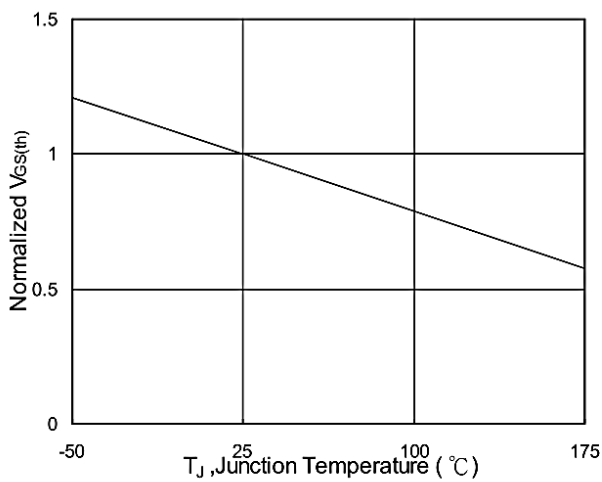


Fig.5 Normalized $V_{GS(th)}$ vs. T_J

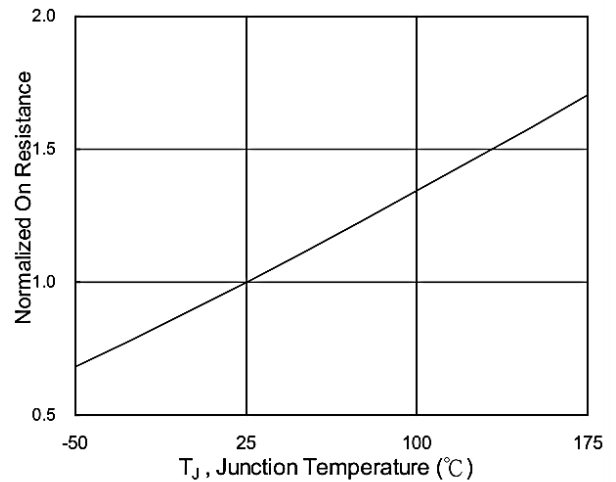
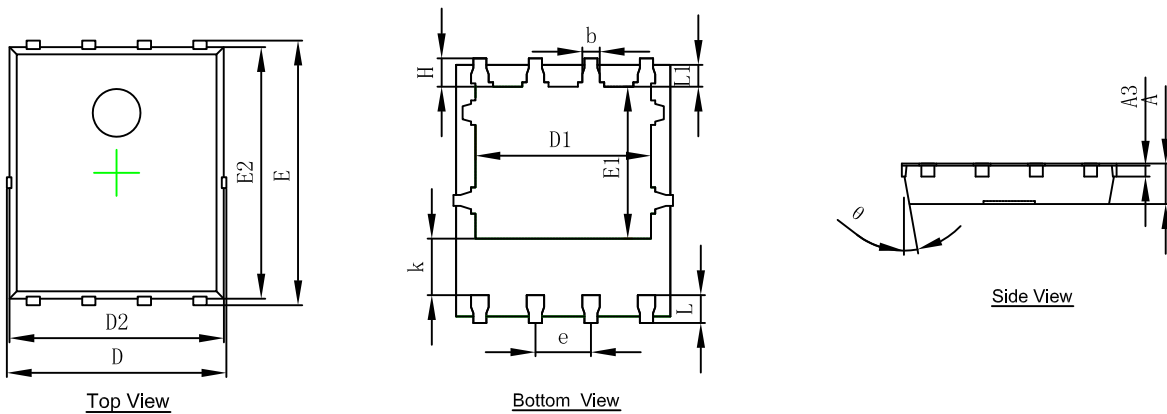


Fig.6 Normalized $R_{DS(on)}$ vs. T_J

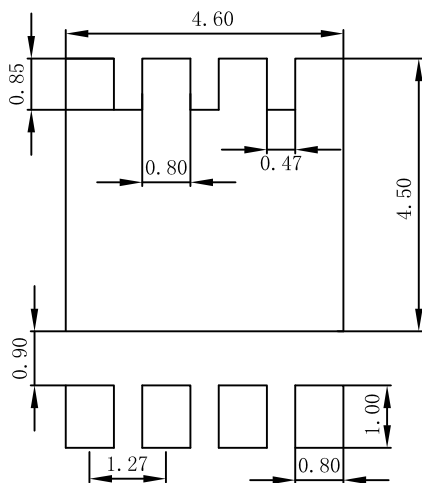
MOSFET (N-CHANNEL)

PDFN5X6 Package information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.000	0.035	0.039
A3	0.254REF.		0.010REF.	
D	4.944	5.096	0.195	0.201
E	5.974	6.126	0.235	0.241
D1	3.910	4.110	0.154	0.162
E1	3.375	3.575	0.133	0.141
D2	4.824	4.976	0.190	0.196
E2	5.674	5.826	0.223	0.229
k	1.190	1.390	0.047	0.055
b	0.350	0.450	0.014	0.018
e	1.270TYP.		0.050TYP.	
L	0.559	0.711	0.022	0.028
L1	0.424	0.576	0.017	0.023
H	0.574	0.726	0.023	0.029
θ	10°	12°	10°	12°

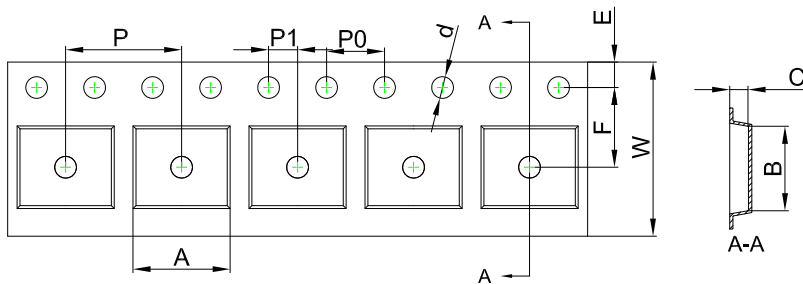
PDFN 5x6 Suggested Pad Layout



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.

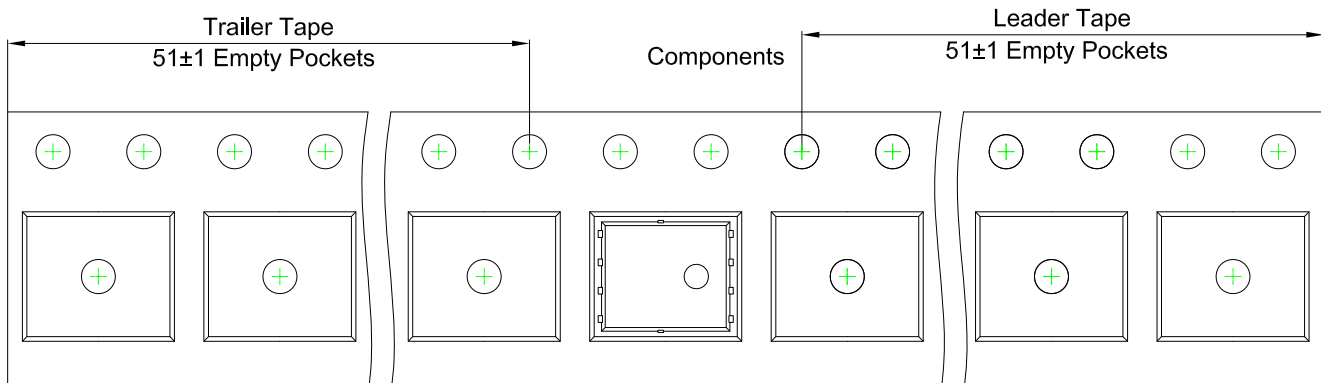
MOSFET (N-CHANNEL)

PDFN 5x6 Embossed Carrier Tape

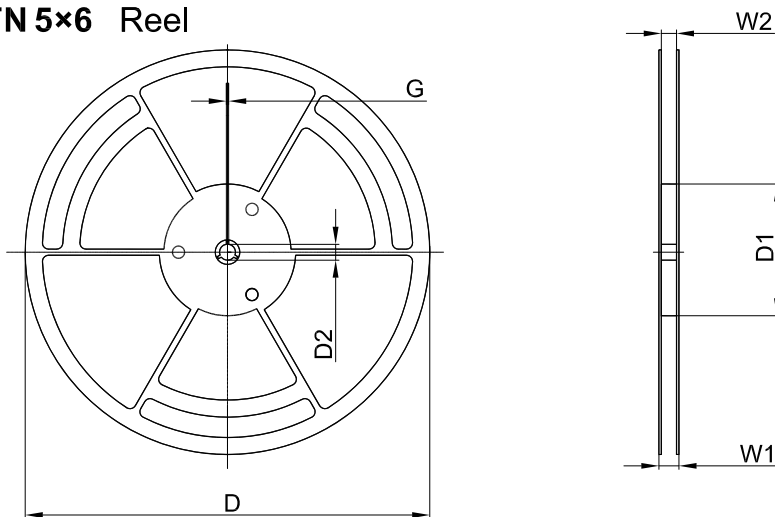


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
PDFN 5x6	6.30	5.30	1.10	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

PDFN 5x6 Tape Leader and Trailer



PDFN 5x6 Reel



Dimensions are in millimeter						
Reel Option	D	D1	D2	G	W1	W2
13" Dia	Ø330.00	100.00	13.00	1.90	17.60	12.40

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
5,000 pcs	13 inch	5,000 pcs	340×336×29	50,000 pcs	353×346×365