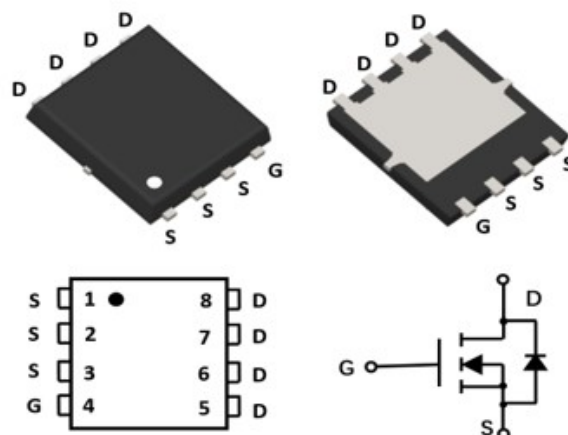


MOSFET (N-CHANNEL)
FEATURES

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

MECHANICAL DATA

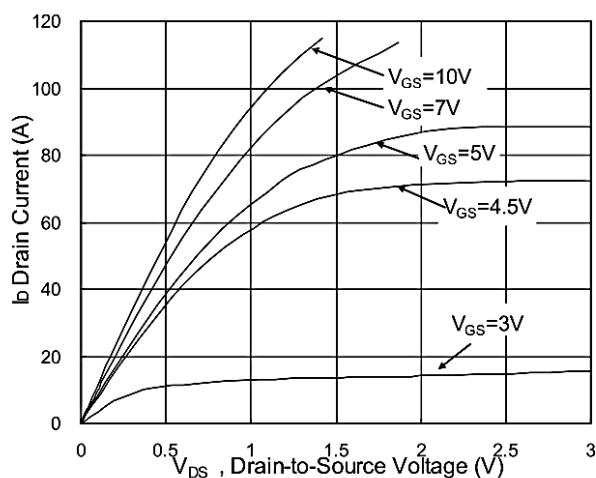
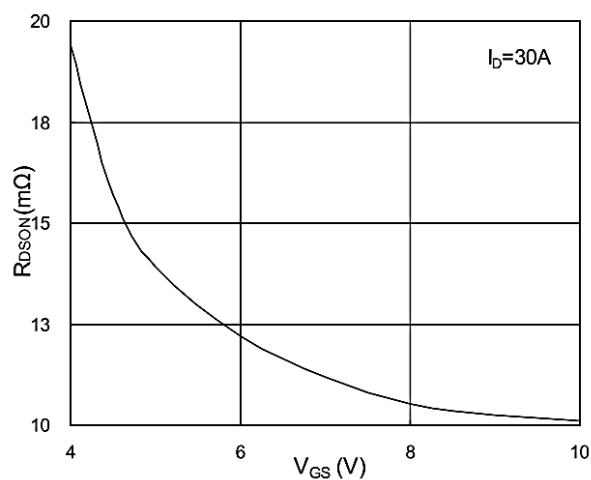
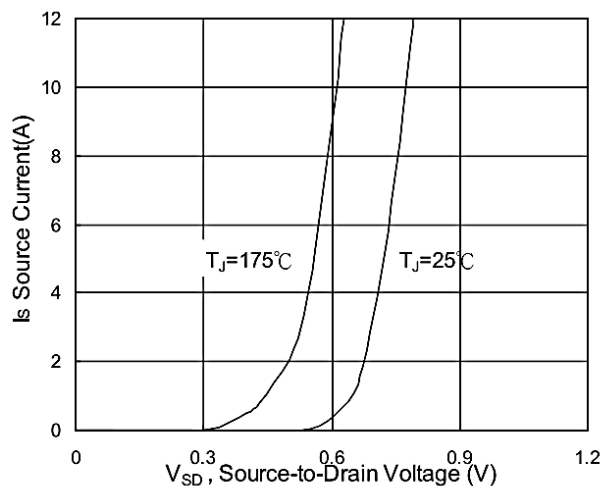
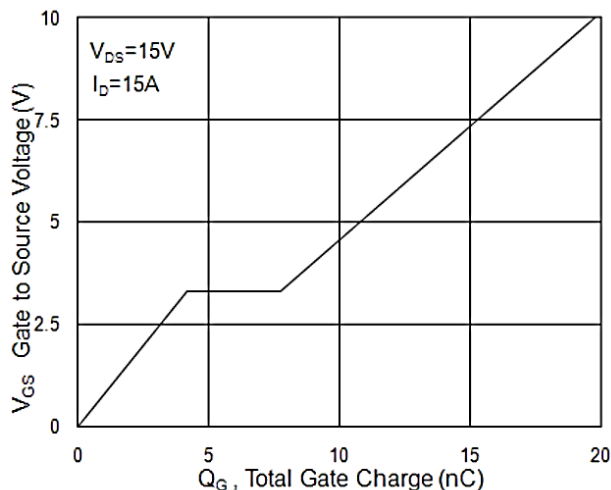
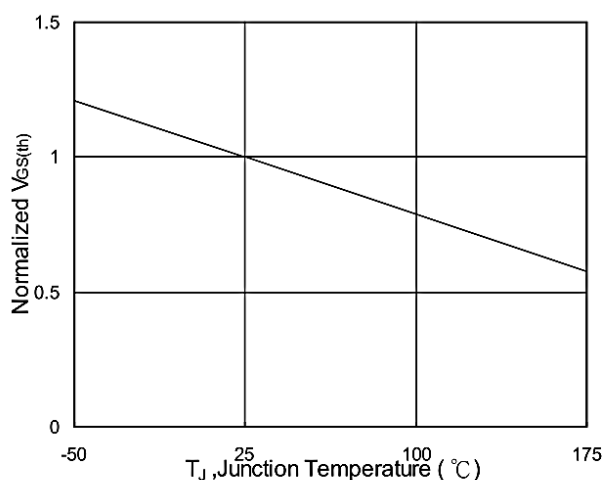
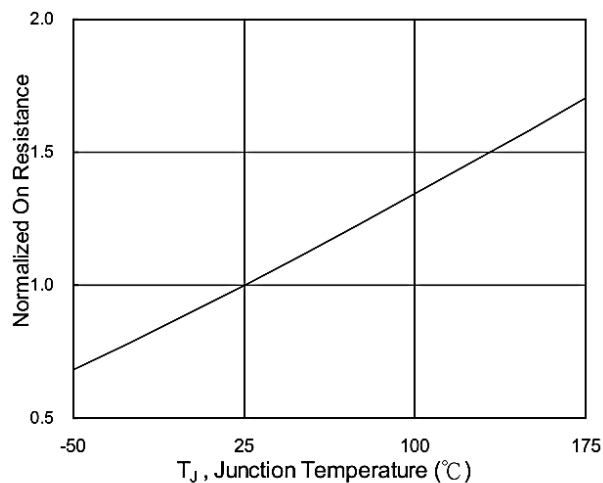
- Case: PDFN5x6
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.016 grams (approximate)

PDFN 5X6

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_C=25^\circ\text{C}$	Continuous Drain Current ¹	50	A
$I_D@T_C=100^\circ\text{C}$	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
$P_D@T_C=25^\circ\text{C}$	Total Power Dissipation ⁴	37	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ\text{C}$

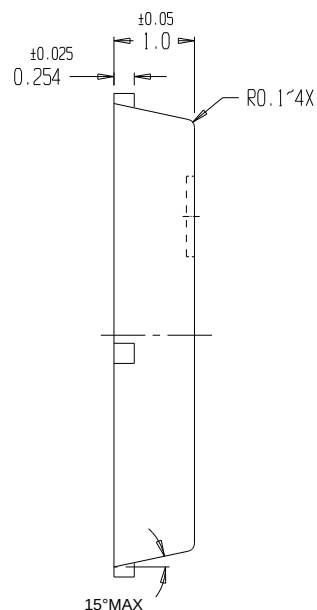
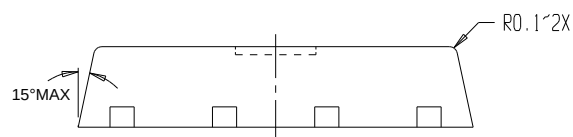
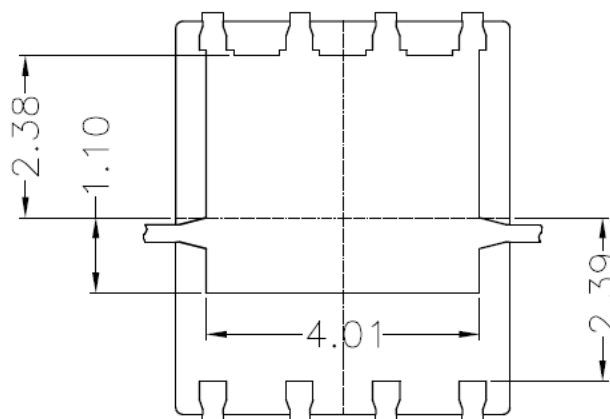
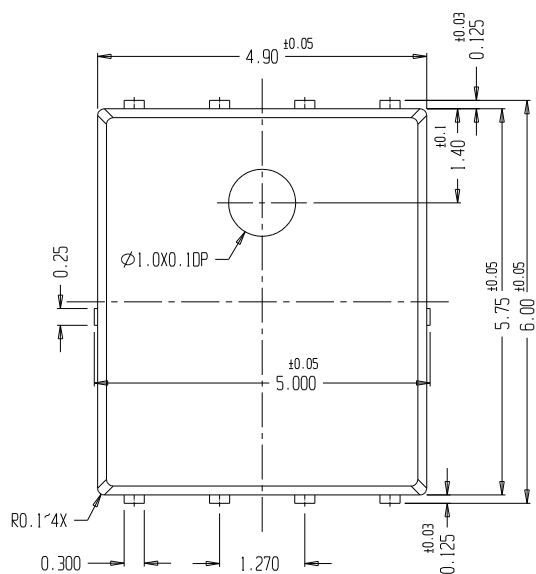
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0\text{V}$, $I_D=250\mu\text{A}$	30	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance ²	$V_{GS}=10\text{V}$, $I_D=15\text{A}$		6.2	8.5	$\text{m}\Omega$
		$V_{GS}=4.5\text{V}$, $I_D=15\text{A}$		9.5	15	$\text{m}\Omega$
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu\text{A}$	1.0	1.5	2.4	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=30\text{V}$, $V_{GS}=0\text{V}$, $T_J=25^\circ\text{C}$	---	---	1	μA
		$V_{DS}=24\text{V}$, $V_{GS}=0\text{V}$, $T_J=125^\circ\text{C}$	---	---	10	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20\text{V}$, $V_{DS}=0\text{V}$	---	---	± 100	nA
R_g	Gate Resistance	$V_{DS}=0\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$	---	1.8	---	Ω
Q_g	Total Gate Charge (10V)	$V_{DS}=15\text{V}$, $V_{GS}=10\text{V}$, $I_D=20\text{A}$	---	9.8	---	nC
Q_{gs}	Gate-Source Charge		---	4.2	---	
Q_{gd}	Gate-Drain Charge		---	3.6	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=15\text{V}$, $V_{GS}=10\text{V}$, $R_G=3\Omega$, $I_D=15\text{A}$	---	4	---	ns
T_r	Rise Time		---	8	---	
$T_{d(off)}$	Turn-Off Delay Time		---	30	---	
T_f	Fall Time		---	4	---	
C_{iss}	Input Capacitance	$V_{DS}=15\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$	---	940	---	pF
C_{oss}	Output Capacitance		---	130	---	
C_{rss}	Reverse Transfer Capacitance		---	110	---	

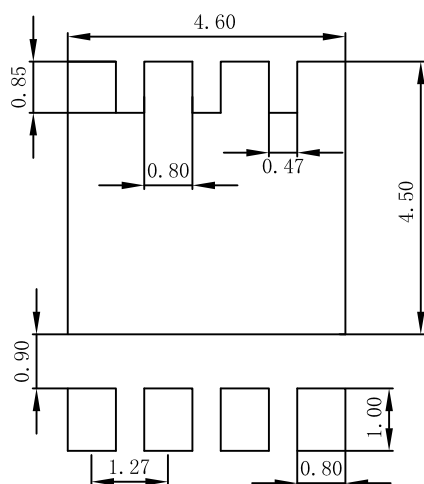
MOSFET (N-CHANNEL)
Typical Characteristics

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

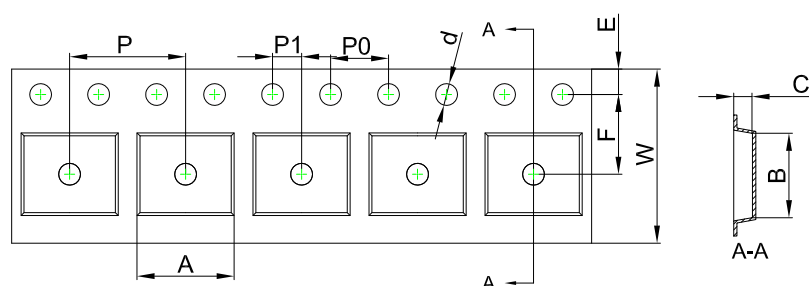


PDFN 5x6 Suggested Pad Layout

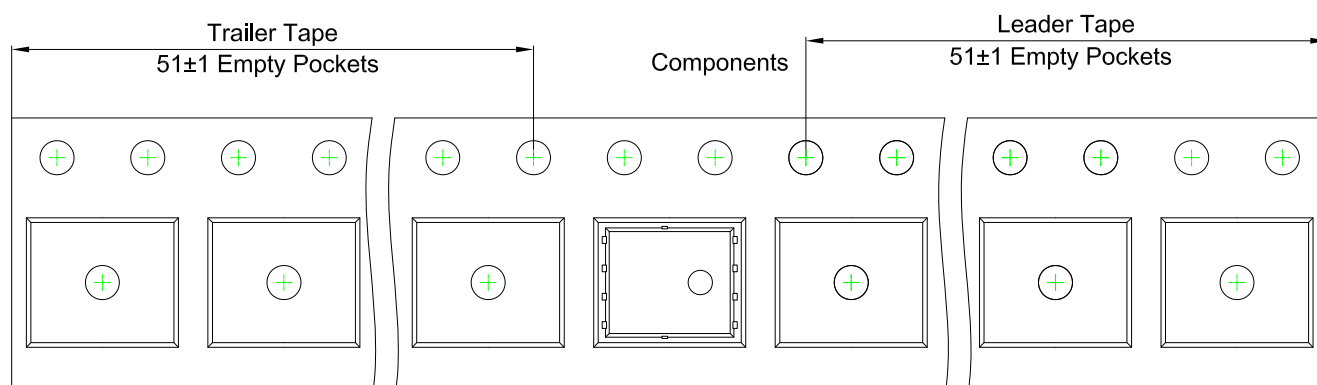
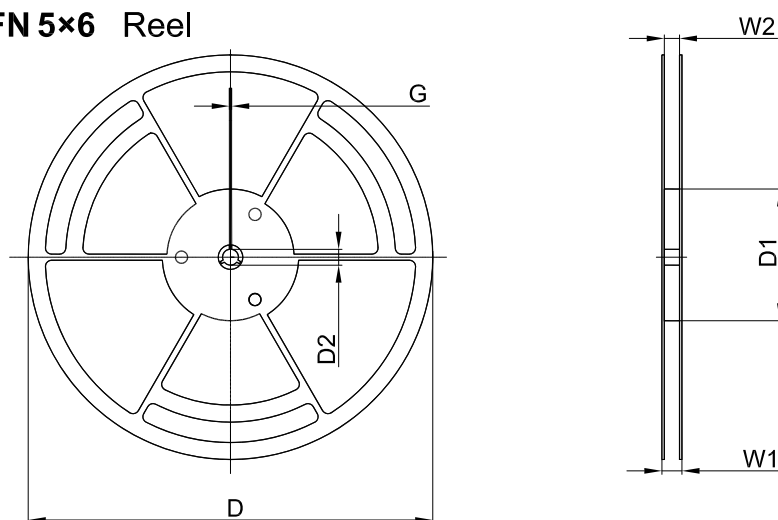


Note:

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

MOSFET (N-CHANNEL)
PDFN 5×6 Embossed Carrier Tape


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
PDFN 5×6	6.30	5.30	1.10	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

PDFN 5×6 Tape Leader and Trailer

PDFN 5×6 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