

**Feature**

This device is Pb-Free, Halogen Free/BFR Free and RoHS compliant.

PNMT6N2 is composed by a transistor and a MOSFET

Transistor:

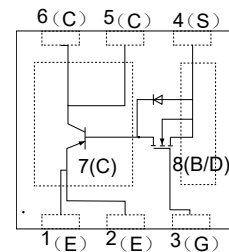
- Very low collector to emitter saturation voltage
- DC current gain >100
- 3A continuous collector current
- PNP epitaxial planar silicon transistor

MOSFET:

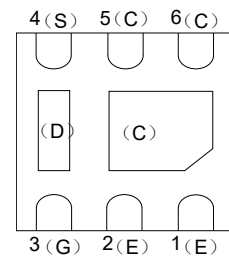
MOSFET Product Summary			
$V_{DS}(V)$	$R_{DS(on)}(\Omega)$	$V_{GS(th)}(V)$	$I_D(A)$
40	4.5@ $V_{GS}=4V$	0.8 to 1.6	0.18

- Transistor

Top View



Bottom View


**Electrical characteristics per line@25°C ( unless otherwise specified)**

Parameter	Symbol	Conditions	Value	Units
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10mA$	-30	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -0.1mA$	-40	V
Emitter -Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -0.1mA$	-5	V
Collector Current	$I_C$		-3	A
Collector Peak Current	$I_{CM}$		-6	A
Base Current	$I_B$		-0.2	A
Base Peak Current	$I_{BM}$		-0.5	A
Total Dissipation @25°C	$P_{tot}$		1.2	W
Storage Temperature	$T_{stg}$		-65~150	°C
Max. Operating Junction Temperature	$T_j$		150	°C

**Absolute maximum rating@25°C**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
DC Current Gain	$h_{FE}$	$I_C=-1mA, V_{CE}=-5.0V$	150			-
		$I_C=-1A, V_{CE}=-5.0V$	100		-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-0.1A, I_B=-1mA$	-		-0.14	V
		$I_C=-0.5A, I_B=-50mA$	-		-0.17	
		$I_C=-1A, I_B=-100mA$	-		-0.31	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-1A, I_B=-0.05mA$			-1.1	V
Collector Cut-off Current ( $I_E=0$ )	$I_{CBO}$	$V_{CB}=-40V$			-0.1	$\mu A$
		$V_{CB}=-30V, T_C=125^\circ C$			-20	
Emitter Cut-off Current ( $I_C=0$ )	$I_{EBO}$	$V_{EB}=-5V$			-0.1	$\mu A$

## ➤ MOSFET

**Electrical characteristics per line@25°C ( unless otherwise specified)**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
<b>OFF CHARACTERISTICS</b>						
Drain-Source Breakdown Voltage	$V_{DSS}$	$I_D=10\mu A, V_{GS}=0V$	40	-	-	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=35V, V_{GS}=0V$	-	-	1	$\mu A$
Gate-Body Leakage Current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 15V$	-	-	$\pm 1$	$\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.6	-	1.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=4.5V, I_D=0.2A$	-	-	4	$\Omega$
<b>DYNAMIC PARAMETERS</b>						
Input Capacitance	$C_{ISS}$	$V_{GS}=0V, V_{DS}=25V,$ $f=1MHz$	-	-	40	pF
Output Capacitance	$C_{DSS}$		-	-	20	pF
Reverse Transfer Capacitance	$C_{RSS}$		-	-	5	pF
<b>SWITCHING PARAMETERS</b>						
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=30V, V_{GS}=10V,$ $R_G=25\Omega, R_L=150\Omega$ $I_D=0.2A$	-	-	20	ns
Turn-Off Delay Time	$t_{d(off)}$		-	-	20	ns

Absolute maximum rating@25°C

Rating		Symbol	Value	Units
Drain-Source Voltage		$V_{DS}$	40	V
Gate-Source Voltage		$V_{GS}$	$\pm 20$	V
Drain Current	Continuous	$I_D$	0.18	A
	Pulsed	$I_D$	0.36	A
Total Power Dissipation	$T_A=25^\circ\text{C}$	$P_D$	150	mW

Typical Characteristics

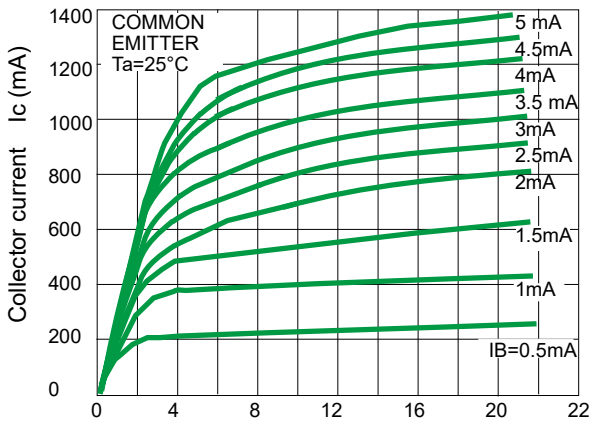


Fig1. Collector-emitter voltage  $V_{CE}$  (V)

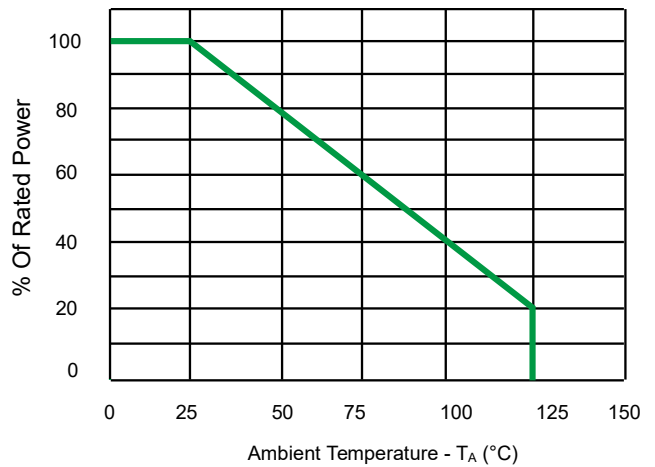


Fig2. Power Derating Curve

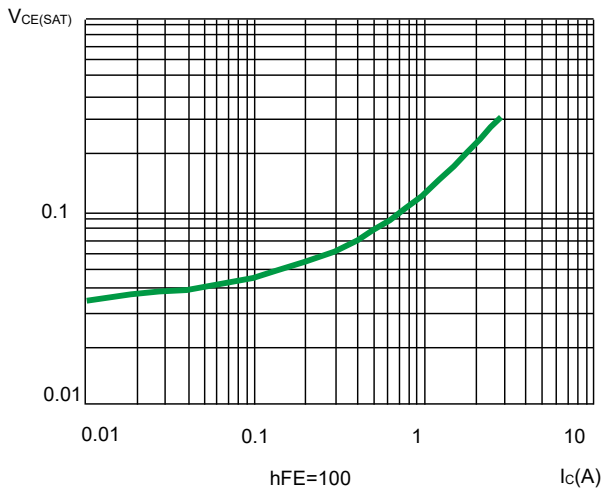


Fig 3. Collector-Emitter Saturation Voltage

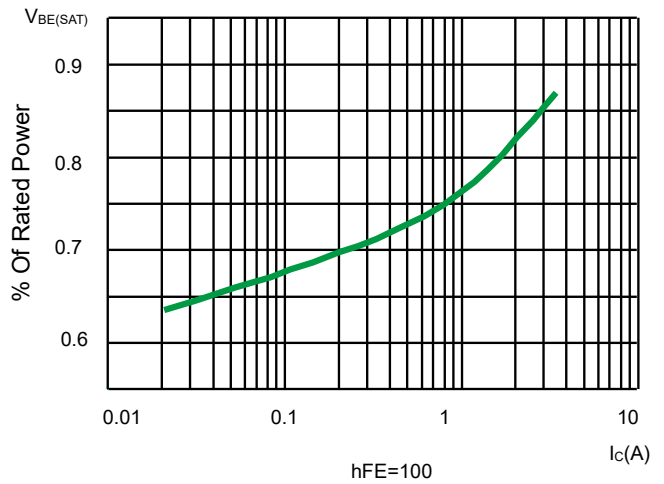


Fig4. Base-Emitter Saturation Voltage

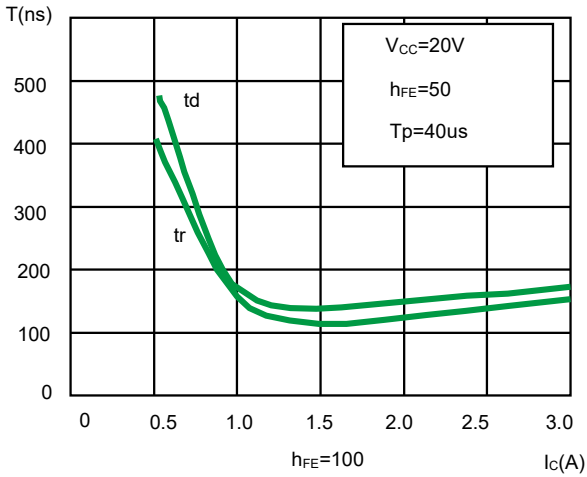


Fig 5. Switching Times Resistive Load

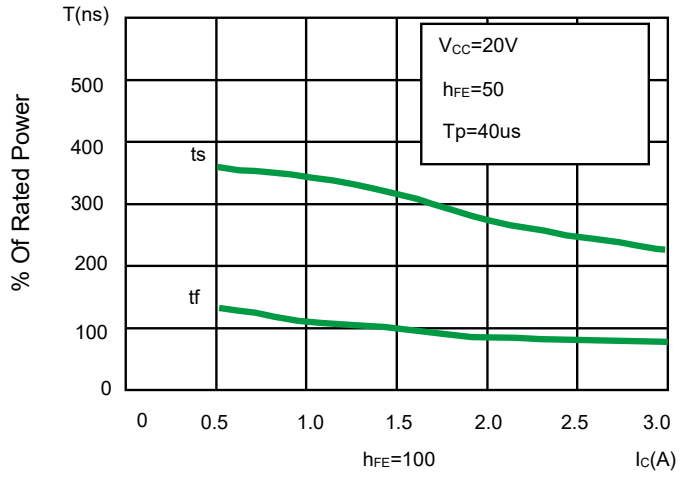


Fig 6. Switching Times Resistive Load

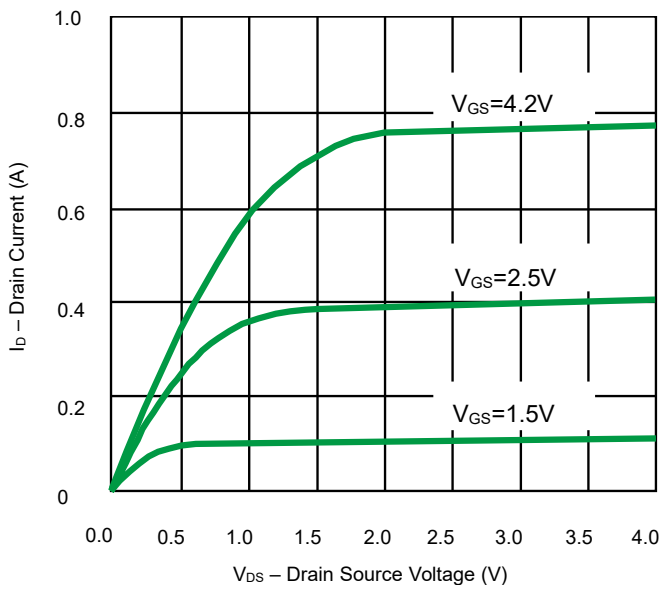


Fig 7. Output Characteristics

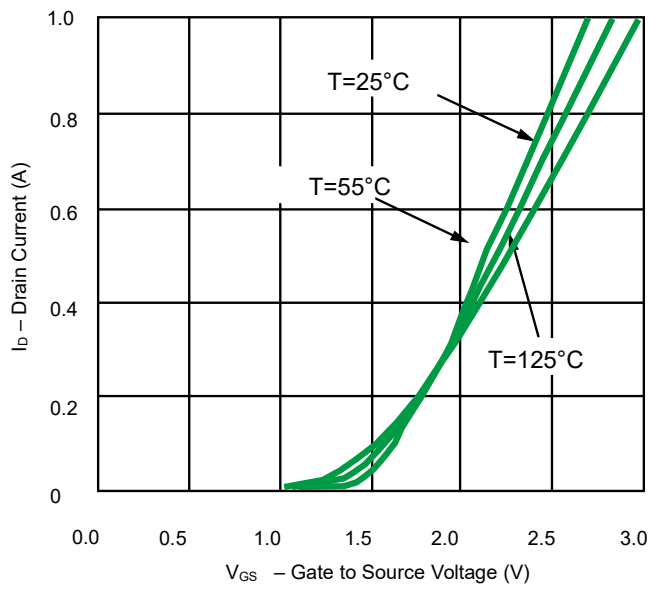


Fig 8. Transfer Characteristics

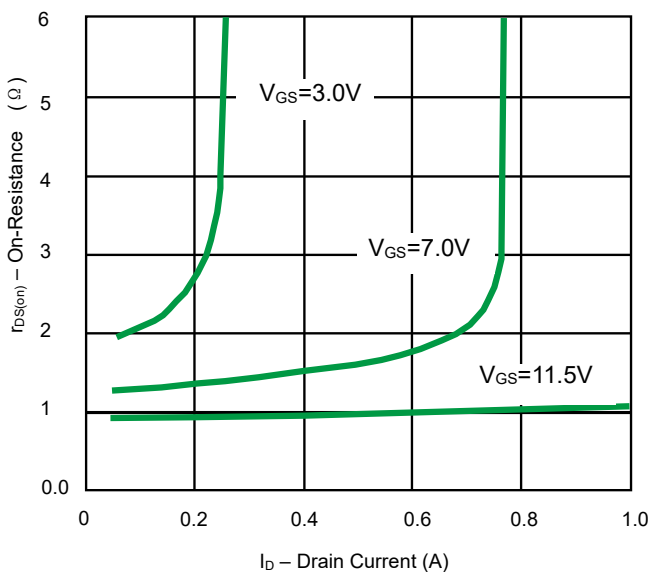


Fig 9. On-Resistance vs. Drain Current

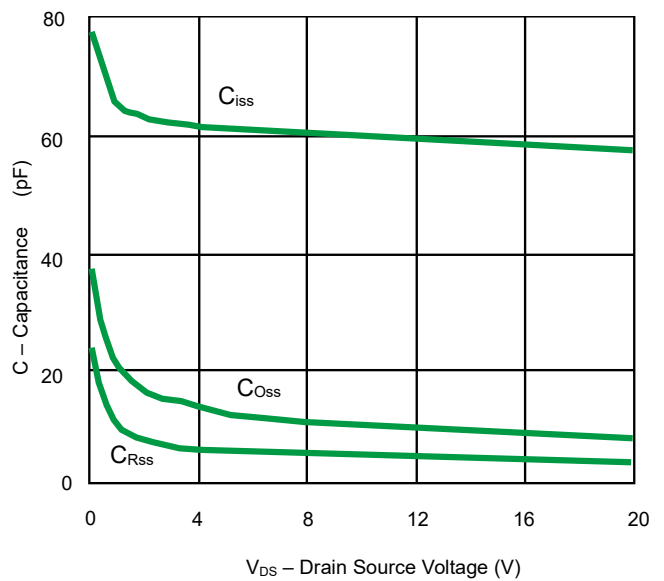


Fig 10. Capacitance

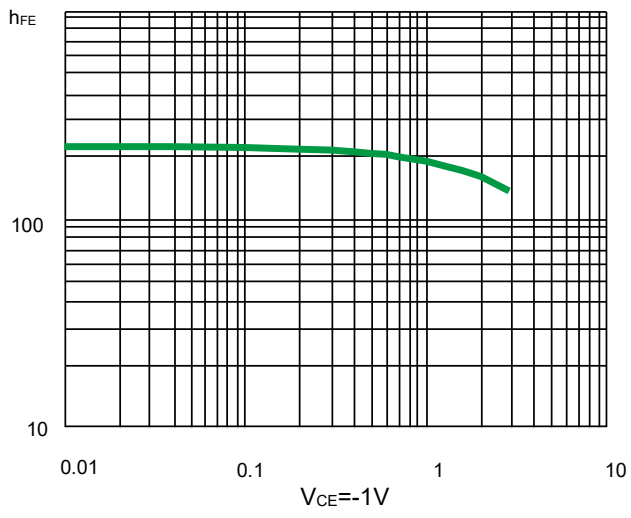
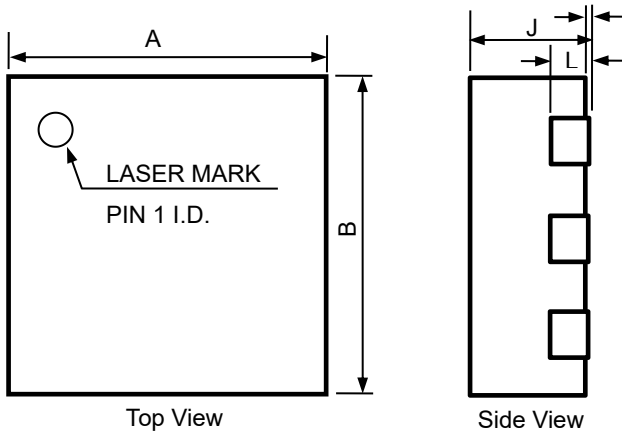
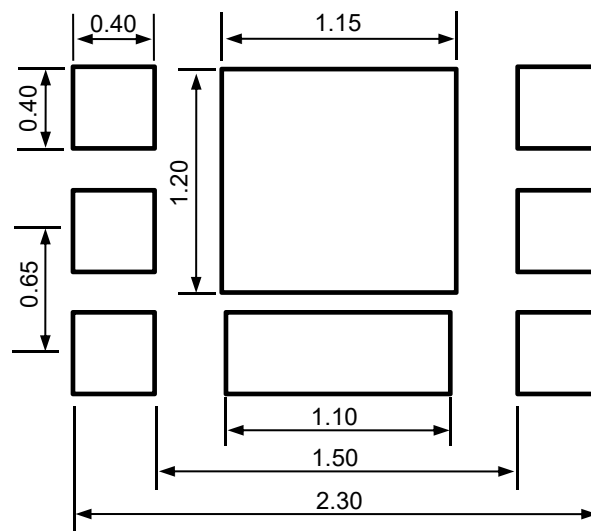
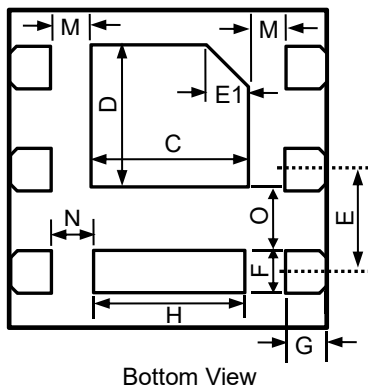


Fig11.DC Current Gain

Product dimension DFN(2\*2)-6L

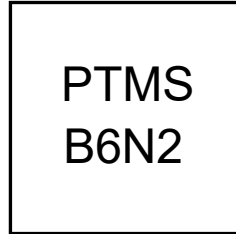


Dim	Millimeters	
	MIN	MAX
A	1.90	2.10
B	1.90	2.10
C	0.70	1.10
D	0.80	1.00
E	0.55	0.75
E1	0.25 Ref.	
F	0.25	0.35
G	0.20	0.35
H	0.50	1.00
J	0.60	0.80
K	0.00	0.05
L	0.20 Ref.	
M	0.15	--
N	0.20	--
O	0.25	--



Suggested PCB Layout

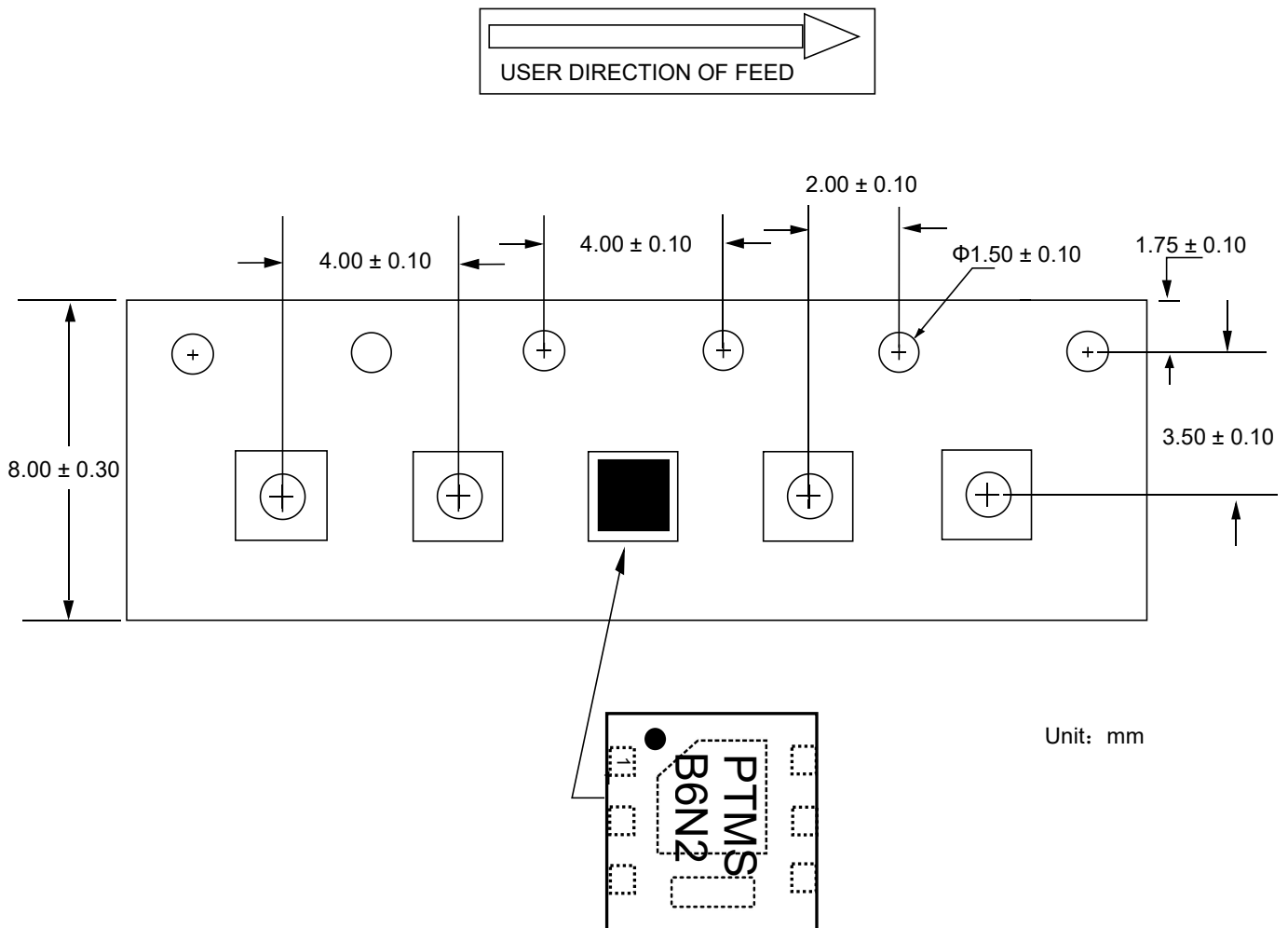
Marking information




Ordering information

Device	Package	Reel	Shipping
PNMT6N2	DFN2*2-6L	7"	3000 / Tape & Reel

Load with information




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