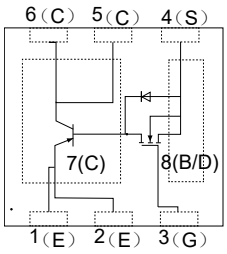
Feature

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

PNMT6N2 is composed by a transistor and a MOSFET

Top View

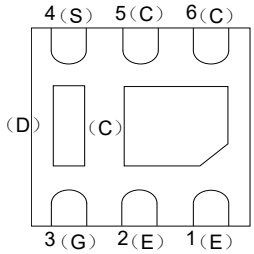


Transistor:

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

MOSFET:

Bottom View



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

- Transistor

Electrical characteristics per line@25℃(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℃

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	μA
		V_{CB}=-30V T_C=125°C			-20	
Emitter Cut-off Current(I_C=0)	I_{EBO}	V_{EB}=-5V			-0.1	μA

➢ MOSFET

Electrical characteristics per line@25℃(unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	V_{DSS}	I_D =10μA,V_{GS}=0V	40	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =35V,V_{GS}=0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS} =0V,V_{GS}=±15V	-	-	±1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.6	-	1.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=4.5V, I_D =0.2A	-	-	4	Ω
DYNAMIC PARAMETERS						
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
SWITCHING PARAMETERS						
Turn-On Delay Time	$t_{d(on)}$	V_{DS}=30V, V_{GS} =10V, R_G=25Ω, R_L=150Ω I_D =0.2A	-	-	20	ns
Turn-Off Delay Time	$t_{d(off)}$		-	-	20	ns

Absolute maximum rating@25℃

Rating		Symbol	Value	Units
Drain-Source Voltage		V_{DS}	40	V
Gate-Source Voltage		V_{GS}	±20	V
Drain Current	Continuous	I_D	0.18	A
	Pulsed	I_D	0.36	A
Total Power Dissipation	T_A=25℃	P_D	150	mW

Typical Characteristics

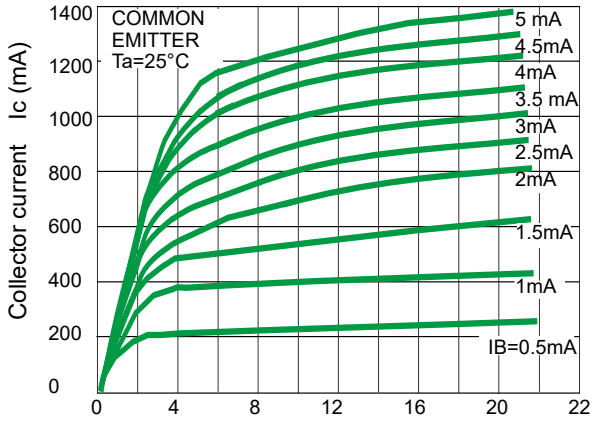


Fig1.Collector-emitter voltage V_{CE} (V)

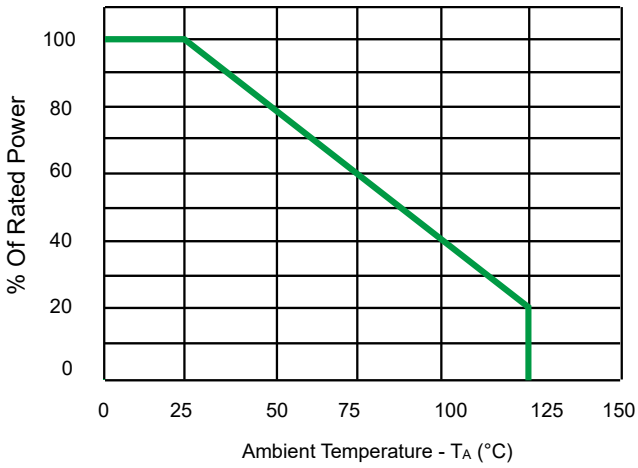


Fig2. Power Derating Curve

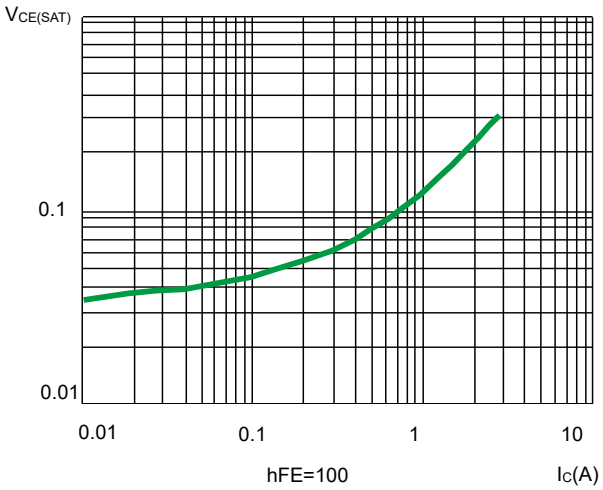


Fig 3.Collector-Emitter Saturation Voltage

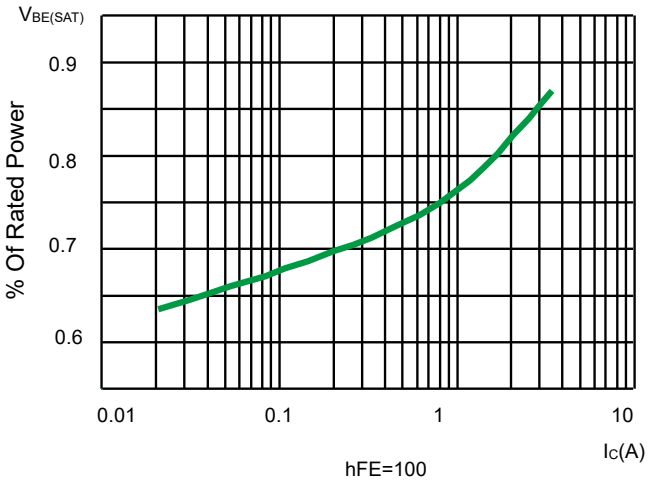


Fig4. Base-Emitter Saturation Voltage

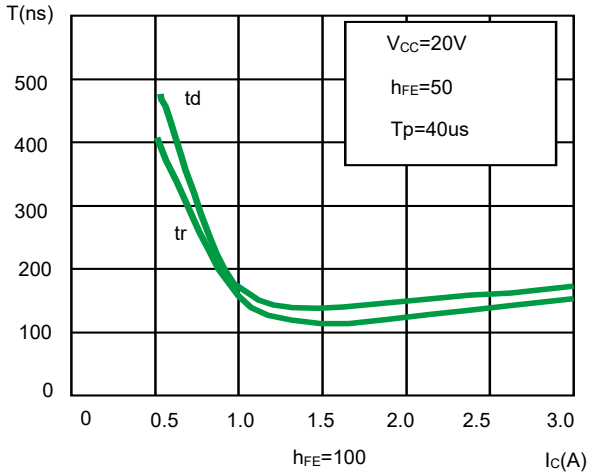


Fig 5.Switching Times Resistive Load

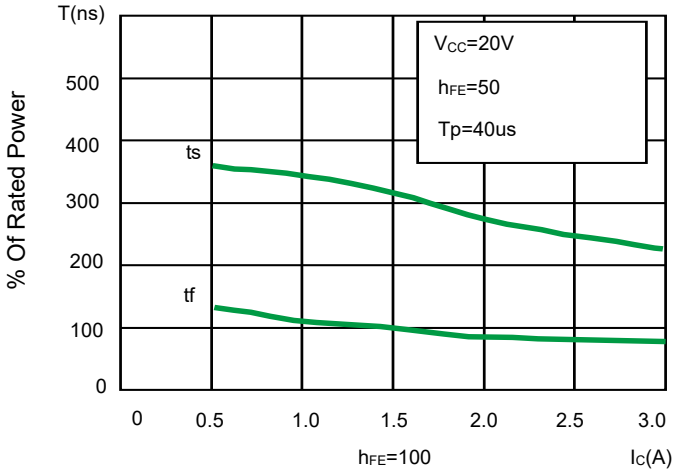


Fig6. Switching Times Resistive Load

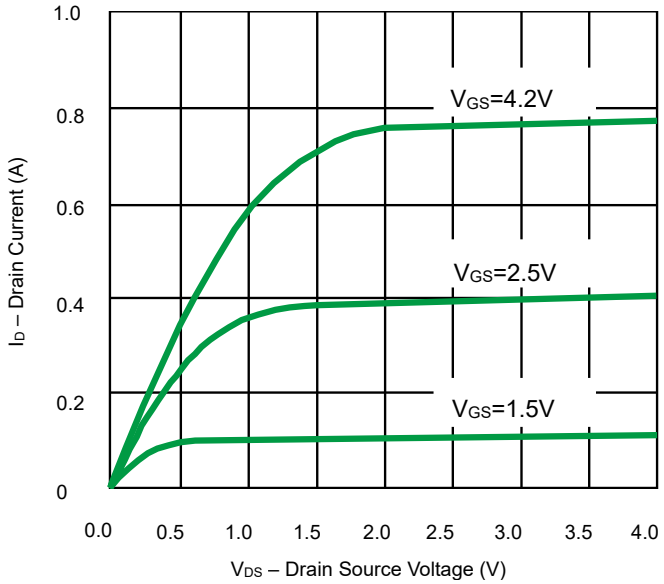


Fig 7. Output Characteristics

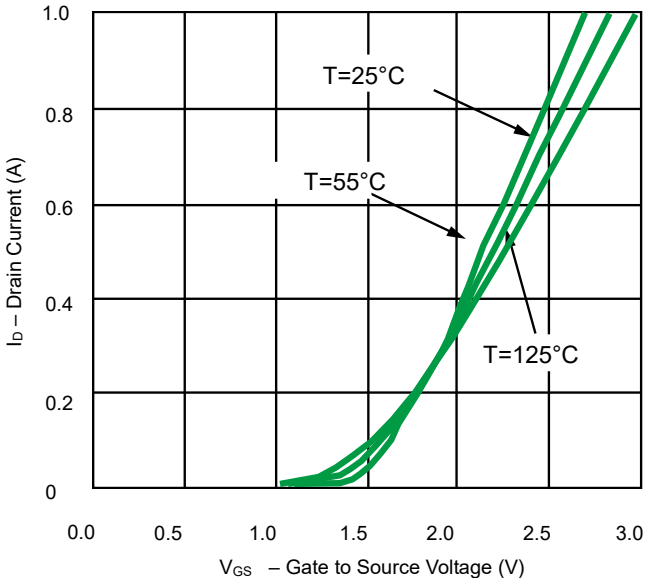


Fig 8. Transfer Characteristics

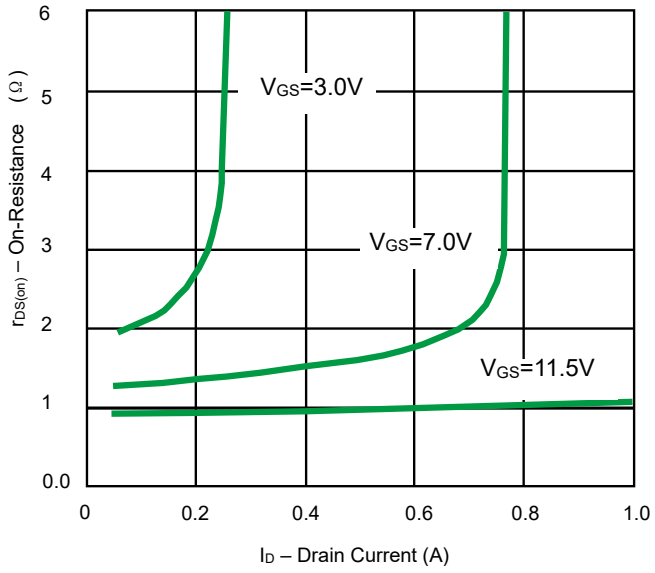


Fig 9. On-Resistance vs. Drain Current

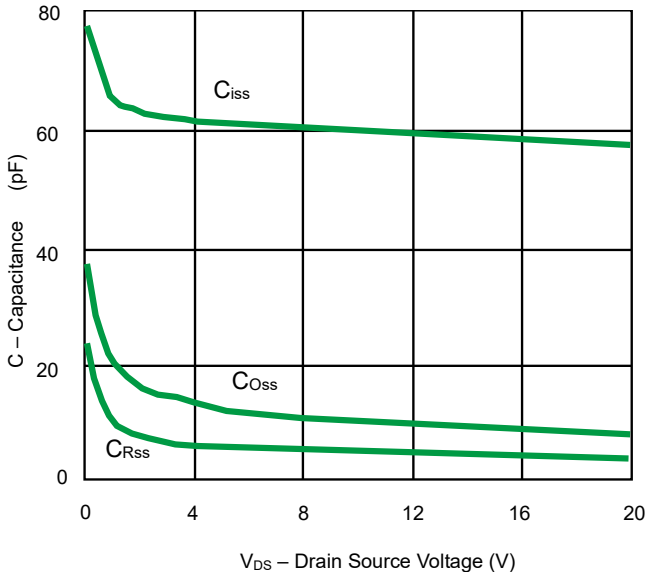


Fig 10. Capacitance

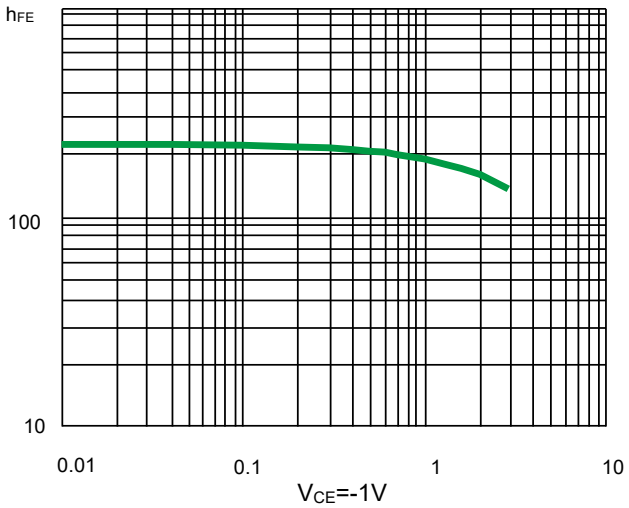
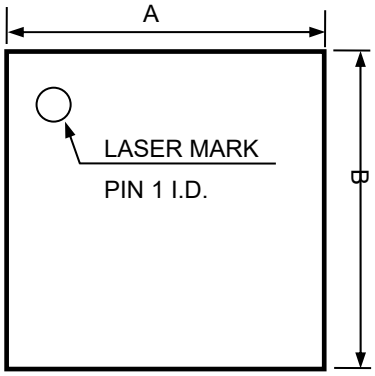
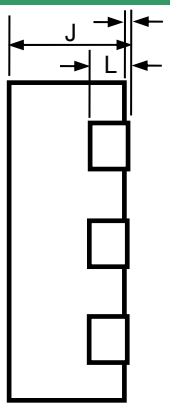


Fig11.DC Current Gain

Product dimension DFN(2*2)-6L

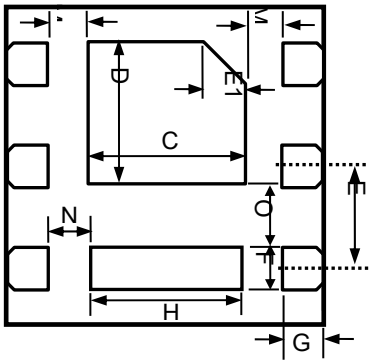


Top View

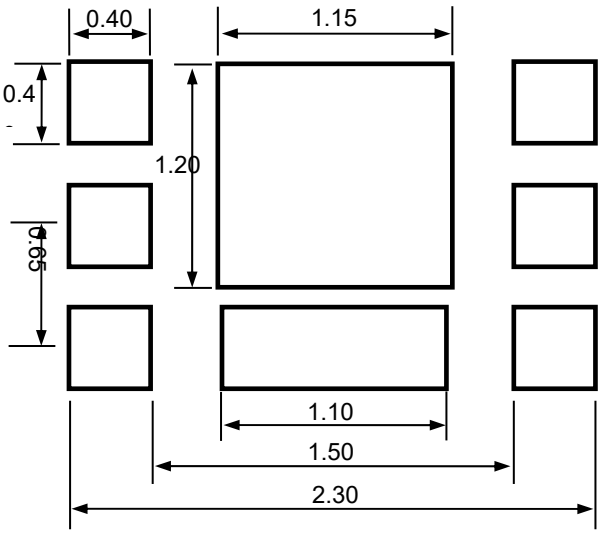


Side View

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	0.55	0.80
K	0.00	0.05
L	0.20 Ref.	
M	0.15	--
N	0.20	--
O	0.25	--

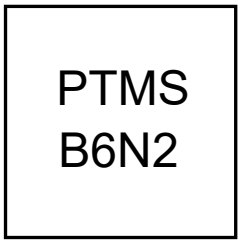


Bottom View



Suggested PCB Layout

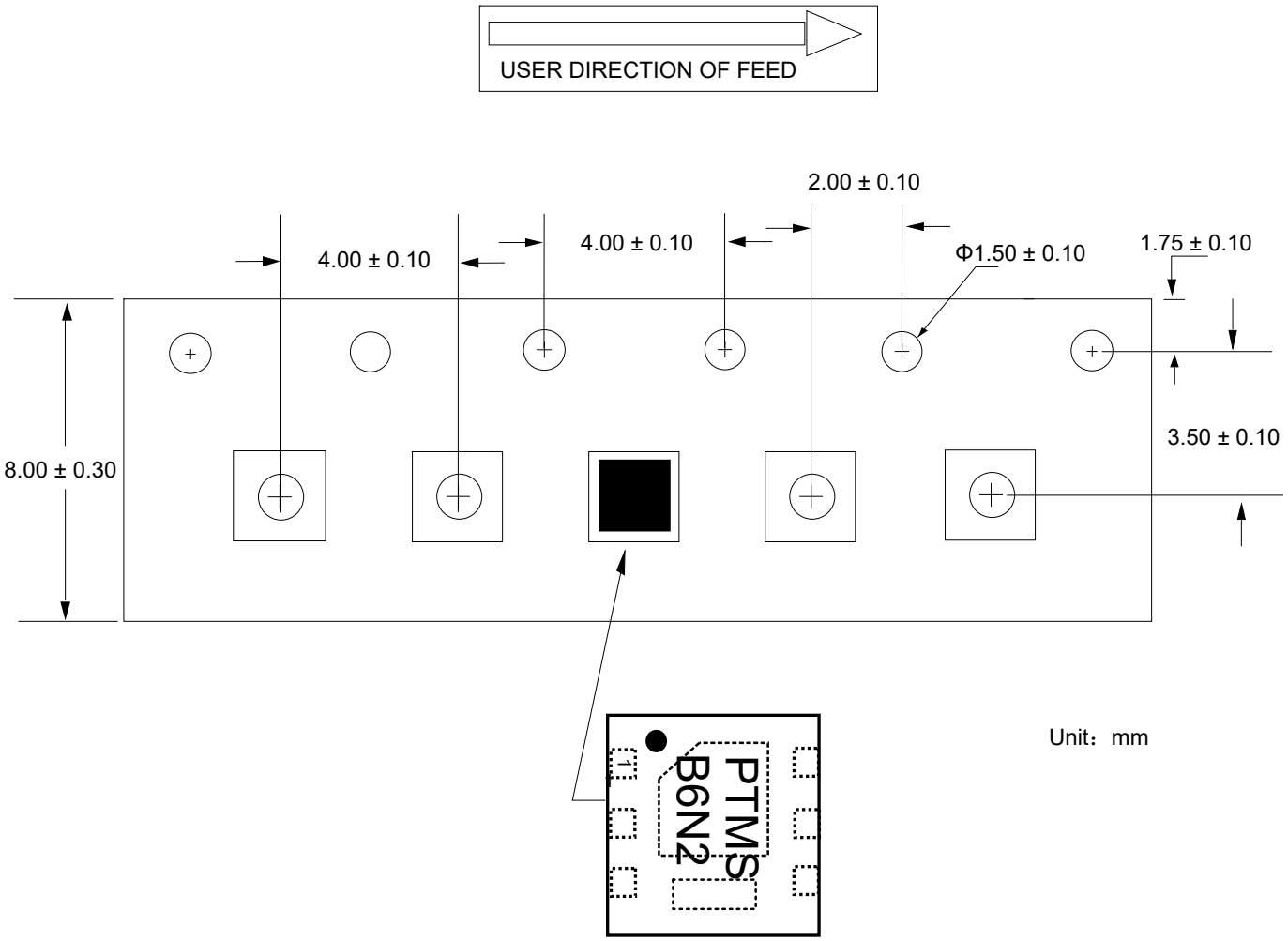
Marking information



Ordering information

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

Load with information



IMPORTANT NOTICE

Prisemi® and Prisemi® are registered trademarks of **Prisemi Electronics Co., Ltd (**Prisemi**)** ,Prisemi reserves the right to make changes without further notice to any products herein. Prisemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Prisemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. “Typical” parameters which may be provided in Prisemi data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including “Typicals” must be validated for each customer application by customer’s technical experts. Prisemi does not convey any license under its patent rights nor the rights of others. The products listed in this document are designed to be used with ordinary electronic equipment or devices, Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

Website: http://www.prisemi.com

For additional information, please contact your local Sales Representative.