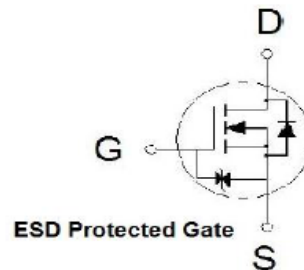


# PE5G6EA

## N-Channel Enhancement Mode MOSFET

### PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D^3$
24V	2.4m $\Omega$ @ $V_{GS} = 10V$	72A



### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25\text{ }^\circ\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		$V_{DS}$	24	V
Gate-Source Voltage		$V_{GS}$	$\pm 12$	
Continuous Drain Current <sup>3</sup>	$T_C = 25\text{ }^\circ\text{C}$	$I_D$	72	A
	$T_C = 100\text{ }^\circ\text{C}$		45	
	$T_A = 25\text{ }^\circ\text{C}$		21	
	$T_A = 70\text{ }^\circ\text{C}$		17	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	120	
Avalanche Current		$I_{AS}$	46	
Avalanche Energy	L = 0.1mH	$E_{AS}$	105	mJ
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	$P_D$	22	W
	$T_C = 100\text{ }^\circ\text{C}$		9	
	$T_A = 25\text{ }^\circ\text{C}$		1.9	
	$T_A = 70\text{ }^\circ\text{C}$		1.2	
Operating Junction & Storage Temperature Range		$T_J, T_{stg}$	-55 to 150	$^\circ\text{C}$

### THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient <sup>2</sup>	$R_{\theta JA}$		63	$^\circ\text{C} / \text{W}$
Junction-to-Case	$R_{\theta JC}$		5.5	

<sup>1</sup>Pulse width limited by maximum junction temperature.

<sup>2</sup>The value of  $R_{\theta JA}$  is measured with the device mounted on 1in<sup>2</sup> FR-4 board with 2oz. Copper, in a still air environment with  $T_A = 25^\circ\text{C}$ .

<sup>3</sup>Package limitation current is 26A.

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### ELECTRICAL CHARACTERISTICS (T<sub>J</sub> = 25 °C, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA	24			V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA	0.7	0.8	1.3	
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0V, V <sub>GS</sub> = ±10V			±30	uA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 19V, V <sub>GS</sub> = 0V			1	μA
		V <sub>DS</sub> = 10V, V <sub>GS</sub> = 0V, T <sub>J</sub> = 55 °C			10	
Drain-Source On-State Resistance <sup>1</sup>	R <sub>DS(ON)</sub>	V <sub>GS</sub> = 2.5V, I <sub>D</sub> = 10A		2.8	3.9	mΩ
		V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 10A		2.1	2.8	
		V <sub>GS</sub> = 10V, I <sub>D</sub> = 15A		1.8	2.4	
Forward Transconductance <sup>1</sup>	g <sub>fs</sub>	V <sub>DS</sub> = 10V, I <sub>D</sub> = 15A		30		S
<b>DYNAMIC</b>						
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> = 0V, V <sub>DS</sub> = 10V, f = 1MHz		3693		pF
Output Capacitance	C <sub>oss</sub>			643		
Reverse Transfer Capacitance	C <sub>rss</sub>			526		
Gate Resistance	R <sub>g</sub>	V <sub>GS</sub> = 0V, V <sub>DS</sub> = 0V, f = 1MHz		1.2		Ω
Total Gate Charge <sup>2</sup>	Q <sub>g</sub> (V <sub>GS</sub> =10V)	V <sub>DS</sub> = 10V, I <sub>D</sub> = 15A		88.5		nC
	Q <sub>g</sub> (V <sub>GS</sub> =4.5V)			44		
Gate-Source Charge <sup>2</sup>	Q <sub>gs</sub>			4.6		
Gate-Drain Charge <sup>2</sup>	Q <sub>gd</sub>			15		
Turn-On Delay Time <sup>2</sup>	t <sub>d(on)</sub>		V <sub>DD</sub> = 10V, I <sub>D</sub> ≅ 15A, V <sub>GEN</sub> = 10V, R <sub>G</sub> = 6Ω		40	
Rise Time <sup>2</sup>	t <sub>r</sub>			58		
Turn-Off Delay Time <sup>2</sup>	t <sub>d(off)</sub>			92		
Fall Time <sup>2</sup>	t <sub>f</sub>			36		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T<sub>J</sub> = 25 °C)</b>						
Continuous Current <sup>3</sup>	I <sub>S</sub>				18	A
Forward Voltage <sup>1</sup>	V <sub>SD</sub>	I <sub>F</sub> = 15A, V <sub>GS</sub> = 0V			1.2	V
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 15A, di <sub>F</sub> /dt = 100A / μS		30		nS
Reverse Recovery Charge	Q <sub>rr</sub>			20		nC

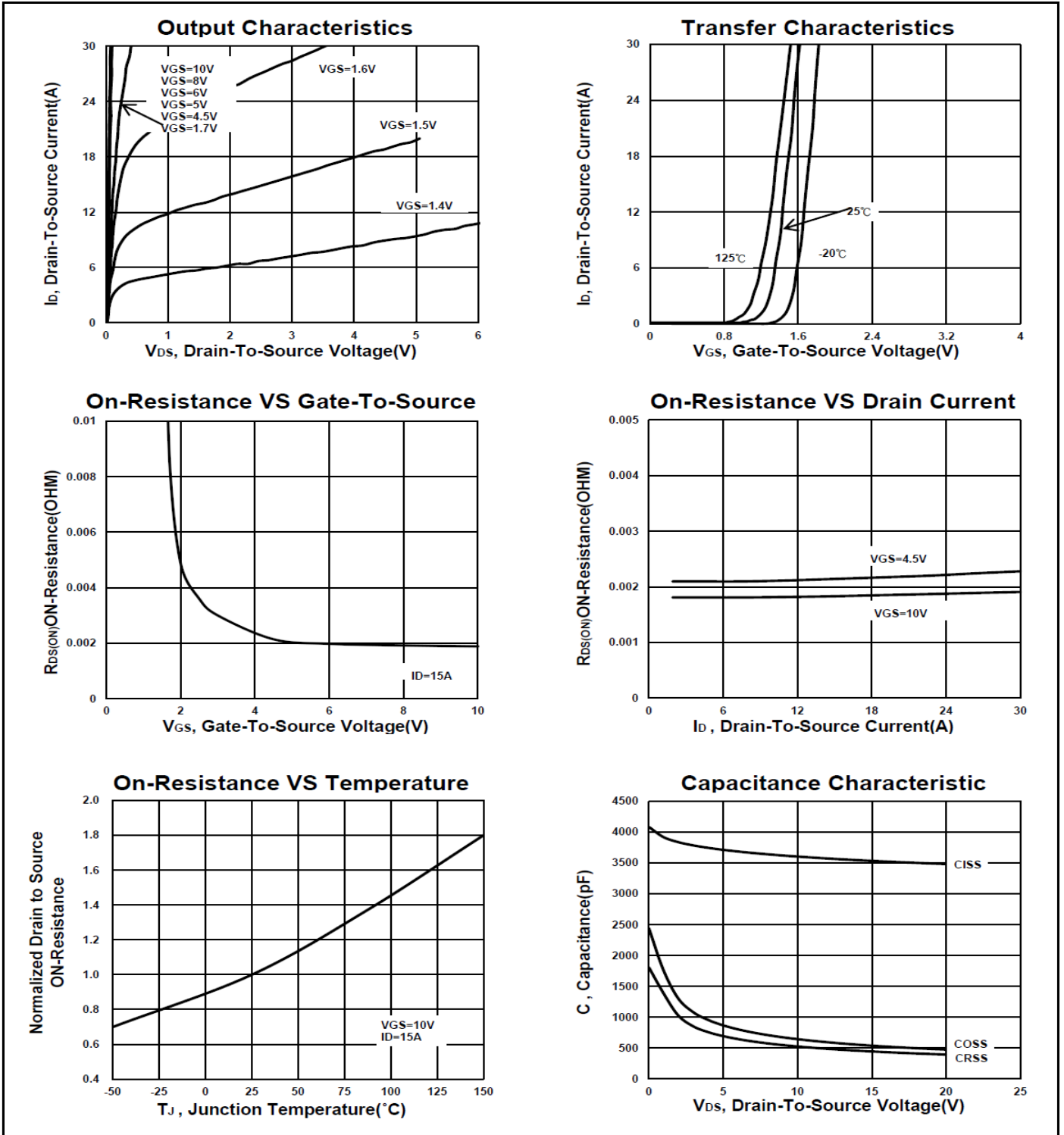
<sup>1</sup>Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

<sup>2</sup>Independent of operating temperature.

<sup>3</sup>Package limitation current is 26A

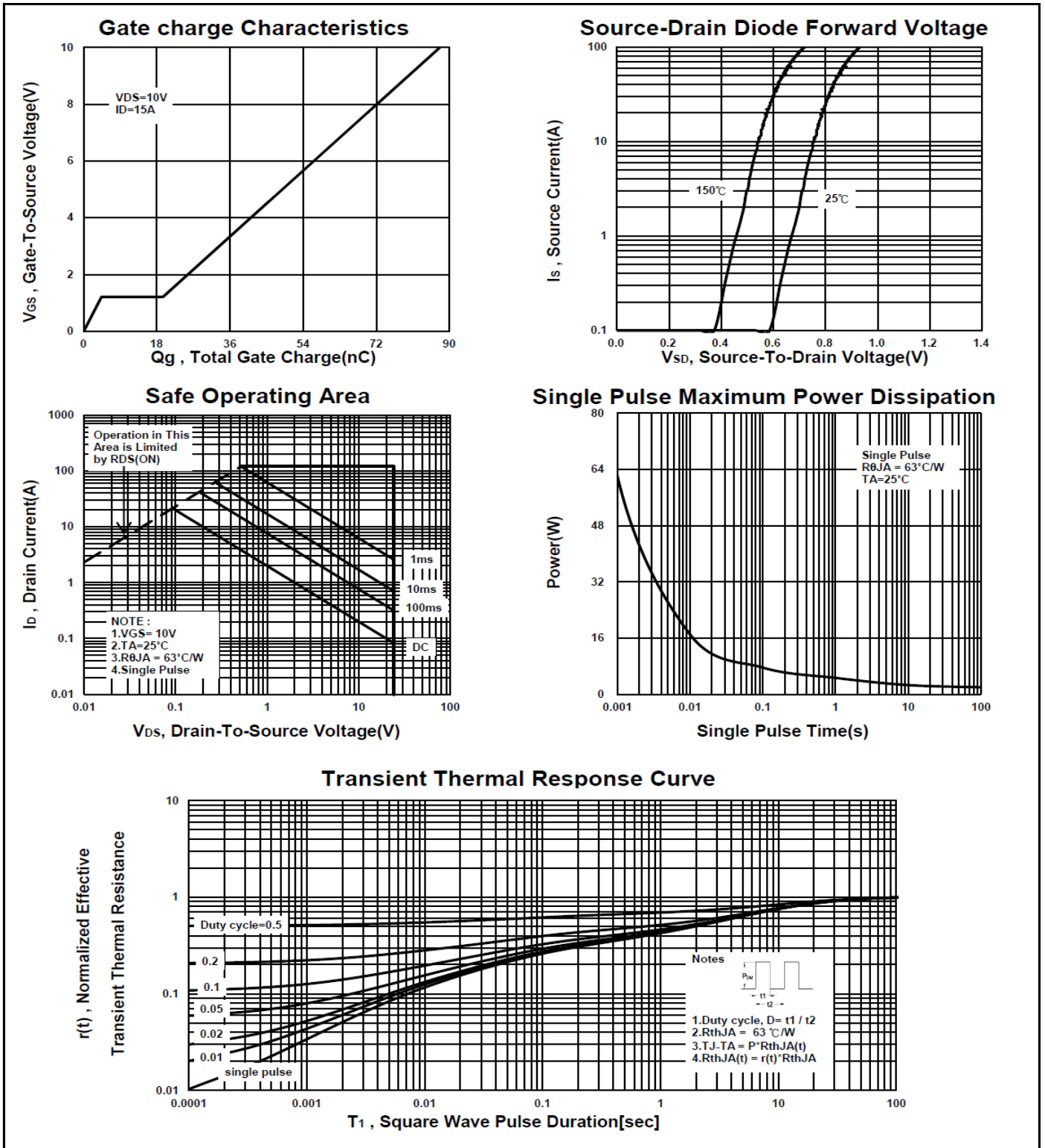
# PE5G6EA

## N-Channel Enhancement Mode MOSFET



# PE5G6EA

## N-Channel Enhancement Mode MOSFET



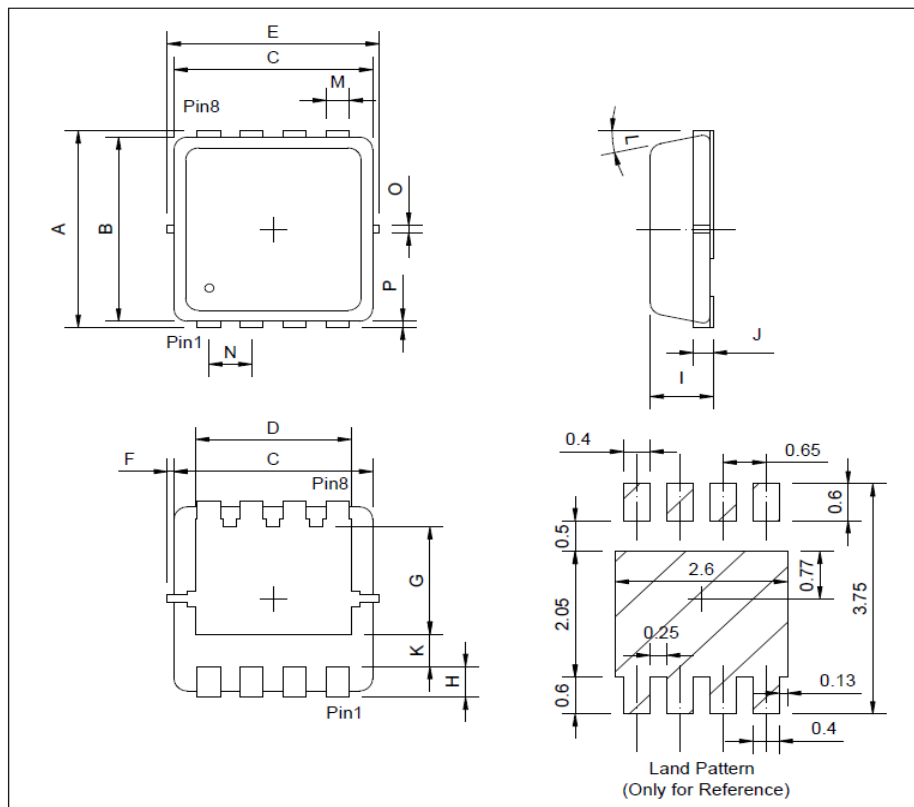
# PE5G6EA

## N-Channel Enhancement Mode MOSFET

### Package Dimension

### PDFN 3x3P MECHANICAL DATA

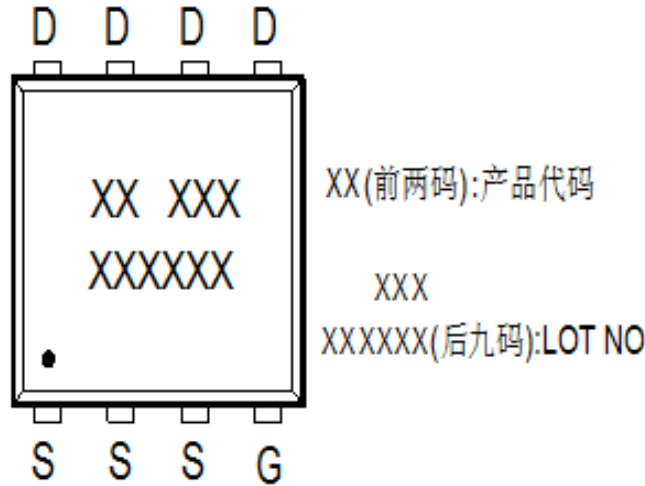
Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	3	3.3	3.6	I	0.65	0.8	0.9
B	2.88	3	3.2	J	0.1	0.15	0.25
C	2.9	3	3.25	K	0.59		
D	2.29	2.45	2.69	L	0°	10°	12°
E	3	3.3	3.6	M	0.14	0.3	0.4
F	0	0.1	0.2	N	0.55	0.65	0.75
G	1.35	1.75	2.2	O		0.2	
H	0.15	0.3	0.55	P	0		0.2



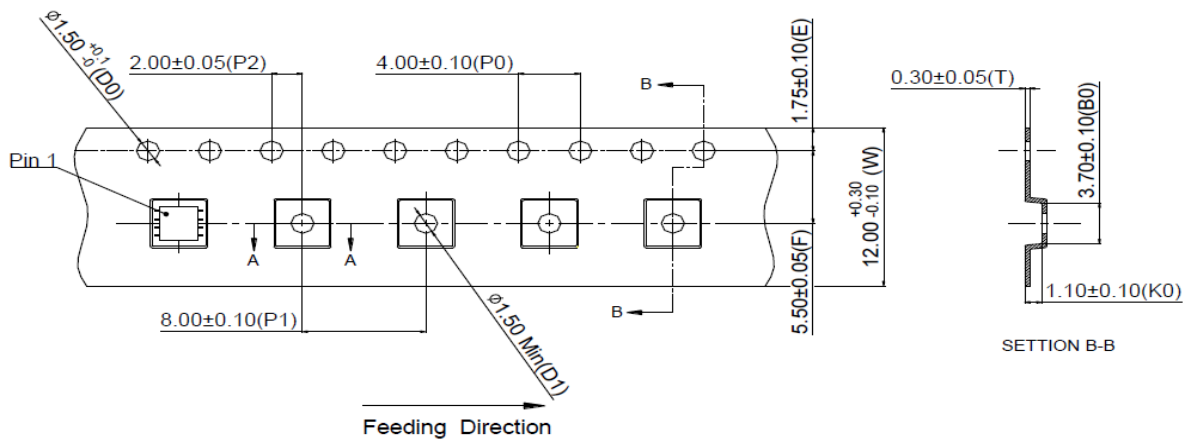
# PE5G6EA

## N-Channel Enhancement Mode MOSFET

### A. Marking Information(此产品代码为: L4)



### B. Tape&Reel Information:5000pcs/Reel



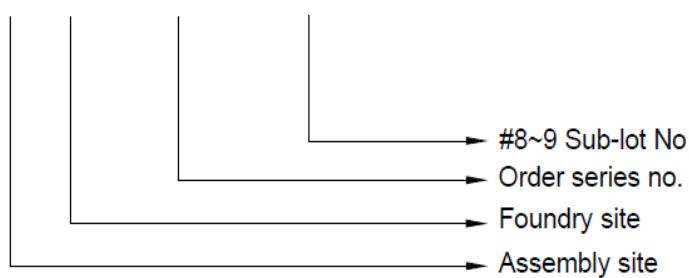
# PE5G6EA

## N-Channel Enhancement Mode MOSFET

### C. Lot.No. & Date Code rule

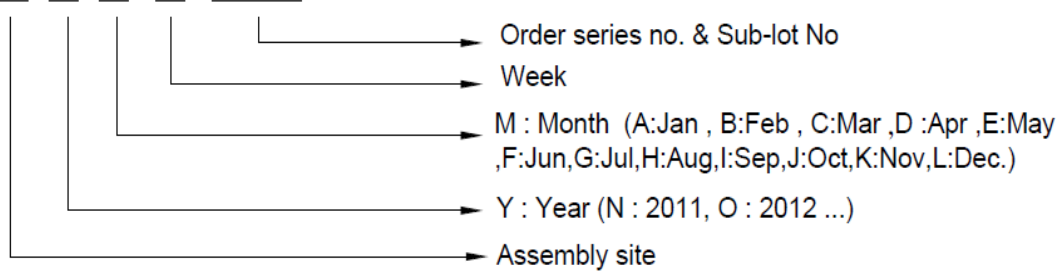
#### 1.LOT.NO.

M N 15M21 03



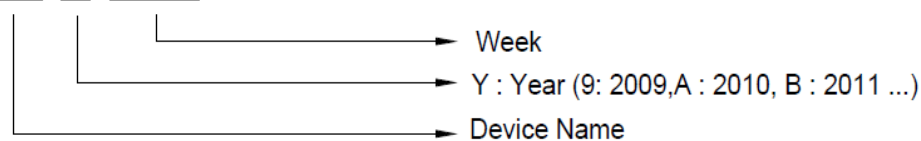
#### 2.Date Code

D Y M X XXX



#### 3.Date Code (for Small package)

XX Y WW





# PE5G6EA

## N-Channel Enhancement Mode MOSFET

### D.Label rule

标签内容(Label content)



1	Label Size	30 * 90 mm
2	Font style	Times New Roman or Arial (或可区分英文"0"和数字"0", "G和"Q"的字型即可)
3	Great Power	Height: 4 mm
4	Package	Height: 2 mm
5	Date	Height: 2 mm Shipping date: YYYY/MM/DD, ex. 2008/09/12
6	Device	Height: 3 mm (Max: 16 Digit)
7	Lot	Height: 3 mm (Max: 9 Digit) Sub lot
8	D/C	Height: 3 mm (Max: 7 Digit)
9	QTY	Height: 3 mm (Max: 6 Digit) Thousand mark is no needed
10	Pb Free label	 Diameter: 1 cm bottom color: Green Font color: Black Font style: Arial
11	Halogen Free label	 Diameter: 1 cm bottom color: Green Font color: Black Font style: Arial
12	Scan info	Device / Lot / D/C / QTY , Insert "/" between every parts. for example: P3055LDG/G12345601/GGG2301/2000 DPI (Dots per inch): Over 300 dpi Code : Code 128 Height: 6 mm at least