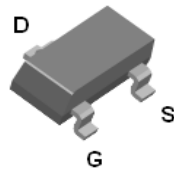


# PM557BA

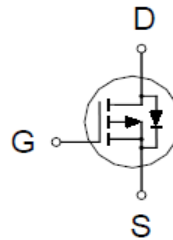
## P-Channel Enhancement Mode MOSFET

### PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
-30V	50mΩ @ $V_{GS} = -4.5V$	-3.3A



SOT-23(S)



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		$V_{GS}$	±12	V
Continuous Drain Current	$T_A = 25\text{ °C}$	$I_D$	-3.3	A
	$T_A = 70\text{ °C}$		-2.6	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	-16	
Power Dissipation	$T_A = 25\text{ °C}$	$P_D$	0.9	W
	$T_A = 70\text{ °C}$		0.6	
Operating Junction & Storage Temperature Range		$T_j, T_{stg}$	-55 to 150	°C

### THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient <sup>2</sup>	$R_{\theta JA}$		130	°C / W

<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.

# PM557BA

## P-Channel Enhancement Mode MOSFET

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

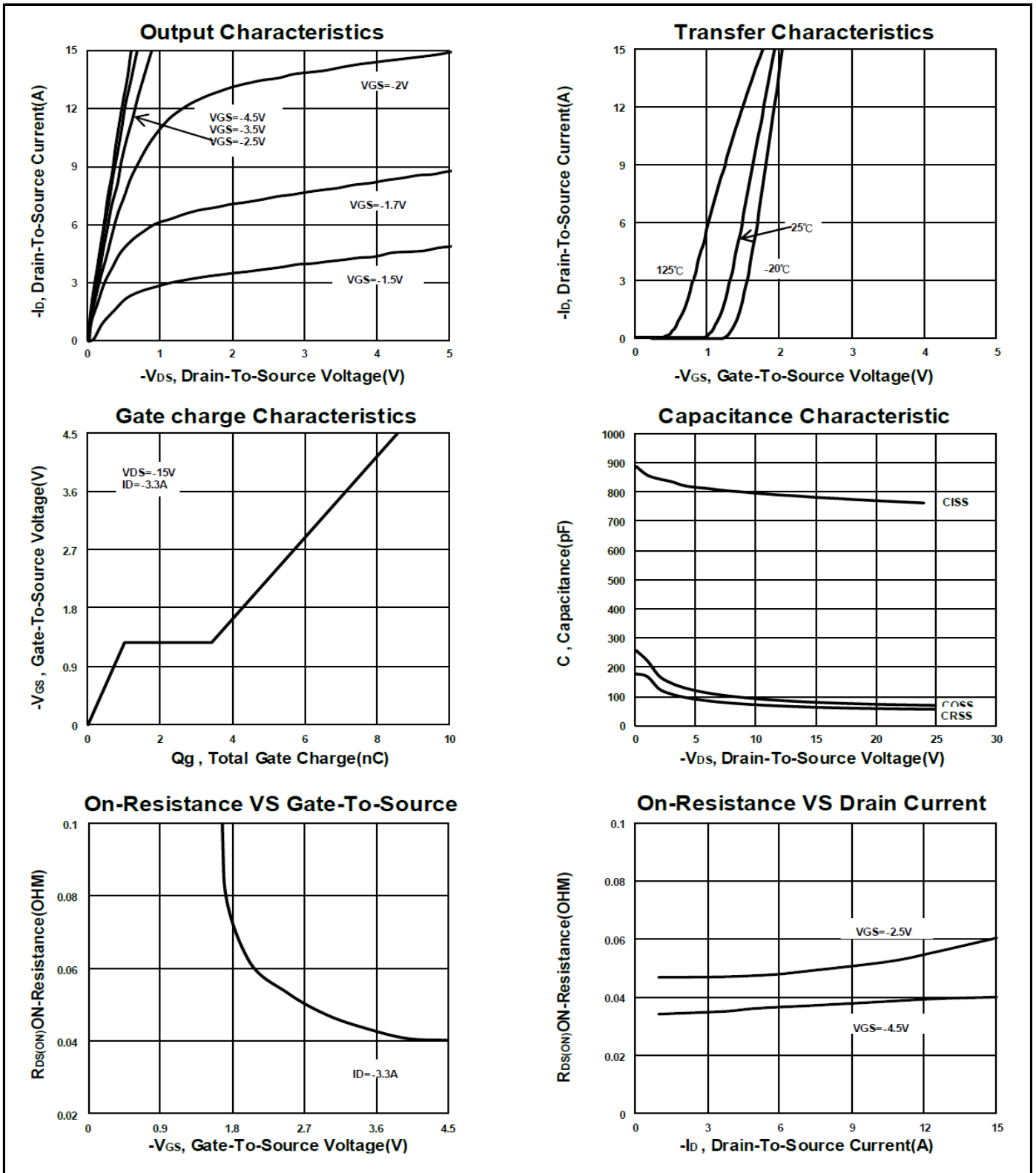
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-30			V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250μA	-0.7	-0.9	-1.3	
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0V, V <sub>GS</sub> = ±12V			±100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = -24V, V <sub>GS</sub> = 0V			-1	μA
		V <sub>DS</sub> = -20V, 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> = -1A		50	75	mΩ
		V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -3.3A		40	50	
Forward Transconductance <sup>1</sup>	g <sub>fs</sub>	V <sub>DS</sub> = -5V, I <sub>D</sub> = -3.3A		15		S
<b>DYNAMIC</b>						
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> = 0V, V <sub>DS</sub> = -15V, f = 1MHz		807		pF
Output Capacitance	C <sub>oss</sub>			81		
Reverse Transfer Capacitance	C <sub>rss</sub>			61		
Total Gate Charge <sup>2</sup>	Q <sub>g</sub>	V <sub>DS</sub> = -15V, V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -3.3A		8.6		nC
Gate-Source Charge <sup>2</sup>	Q <sub>gs</sub>			1.1		
Gate-Drain Charge <sup>2</sup>	Q <sub>gd</sub>			2.6		
Turn-On Delay Time <sup>2</sup>	t <sub>d(on)</sub>	V <sub>DD</sub> = -15V, V <sub>GS</sub> = -4.5V I <sub>D</sub> ≅ -3.3A, R <sub>G</sub> = 6Ω		19		nS
Rise Time <sup>2</sup>	t <sub>r</sub>			30		
Turn-Off Delay Time <sup>2</sup>	t <sub>d(off)</sub>			55		
Fall Time <sup>2</sup>	t <sub>f</sub>			20		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTIC ( T<sub>J</sub> = 25 °C )</b>						
Continuous Current	I <sub>S</sub>				-0.8	A
Forward Voltage <sup>1</sup>	V <sub>SD</sub>	I <sub>F</sub> = -3.3A, V <sub>GS</sub> = 0V			-1.1	V
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = -3.3A, dI <sub>F</sub> /dt = 100A / μS		8.5		nS
Reverse Recovery Charge	Q <sub>rr</sub>				2.5	

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

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

# PM557BA

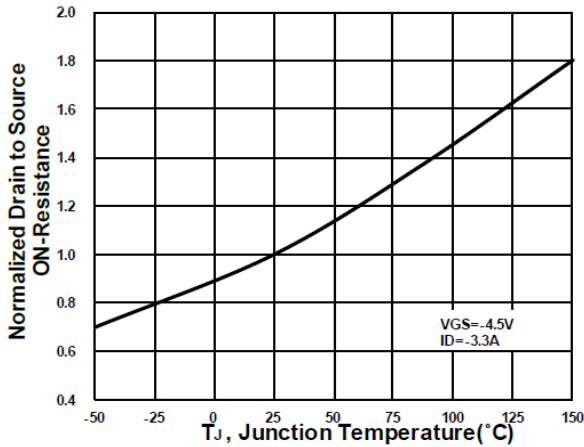
## P-Channel Enhancement Mode MOSFET



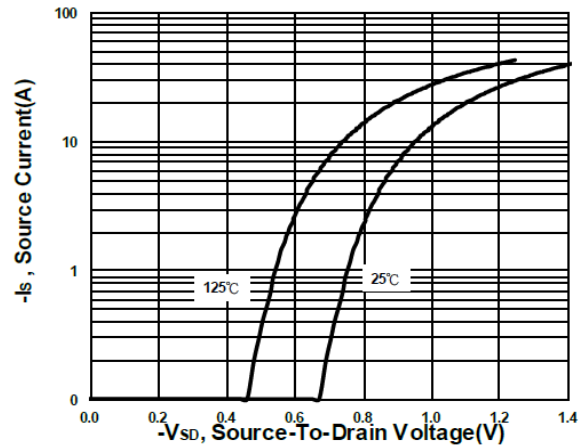
# PM557BA

## P-Channel Enhancement Mode MOSFET

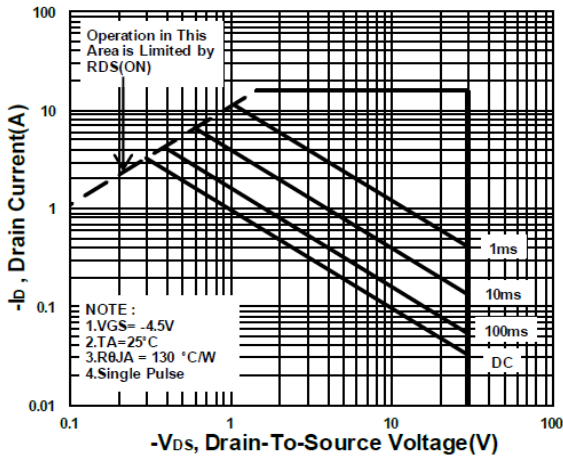
**On-Resistance VS Temperature**



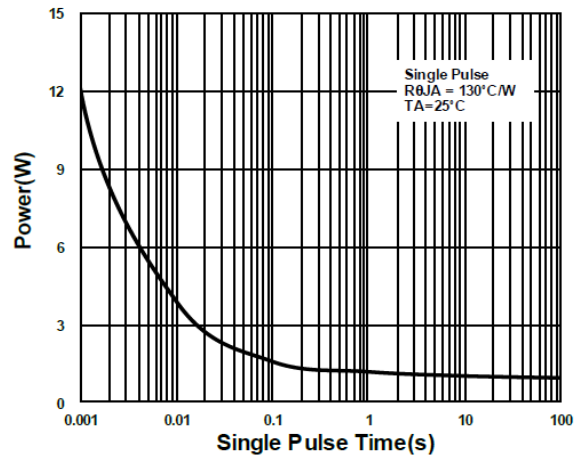
**Source-Drain Diode Forward Voltage**



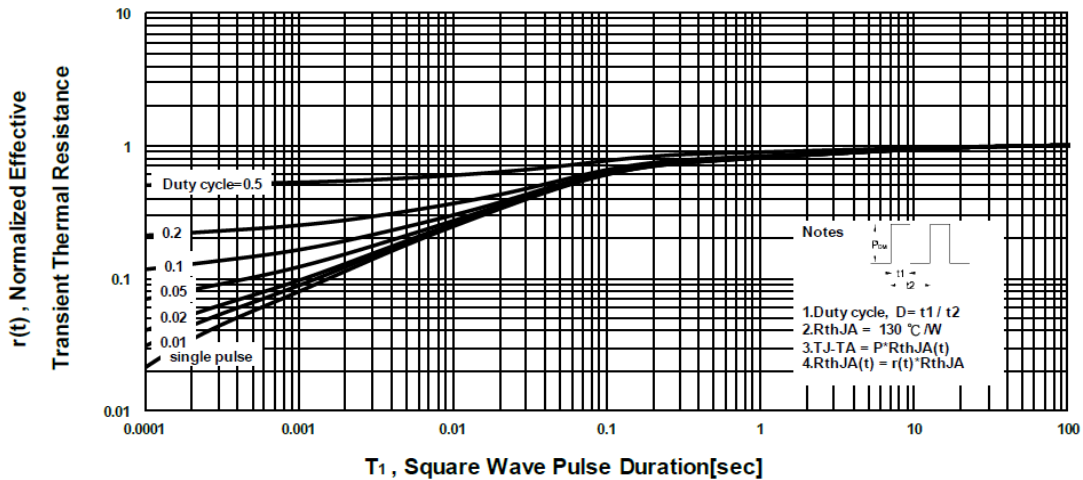
**Safe Operating Area**



**Single Pulse Maximum Power Dissipation**



**Transient Thermal Response Curve**

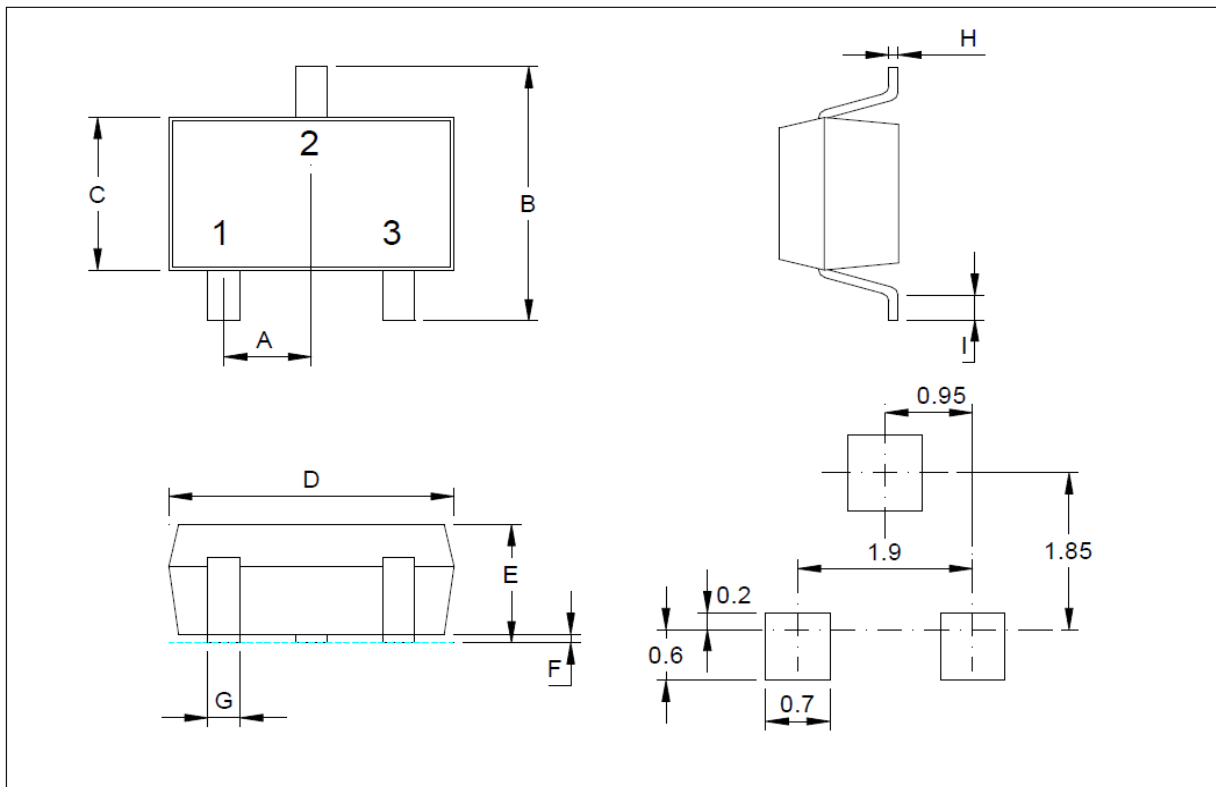


**PM557BA**  
**P-Channel Enhancement Mode MOSFET**

**Package Dimension**

**SOT-23 (S) MECHANICAL DATA**

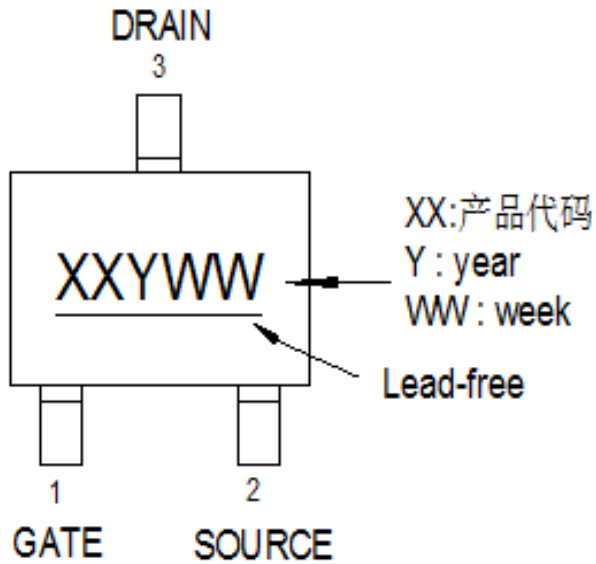
Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	0.9		1	H	0.08		0.2
B	2.25		2.85	I	0.15		0.6
C	1.2		1.4				
D	2.8		3.04				
E	0.89		1.2				
F	0		0.1				
G	0.3		0.5				



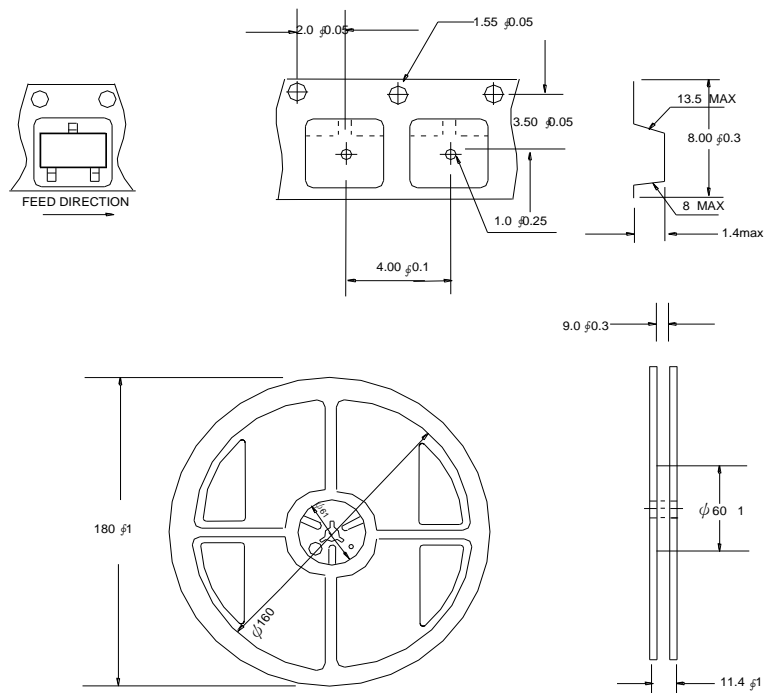
# PM557BA

## P-Channel Enhancement Mode MOSFET

### A. Marking Information ( 此产品代码为 : 4C )



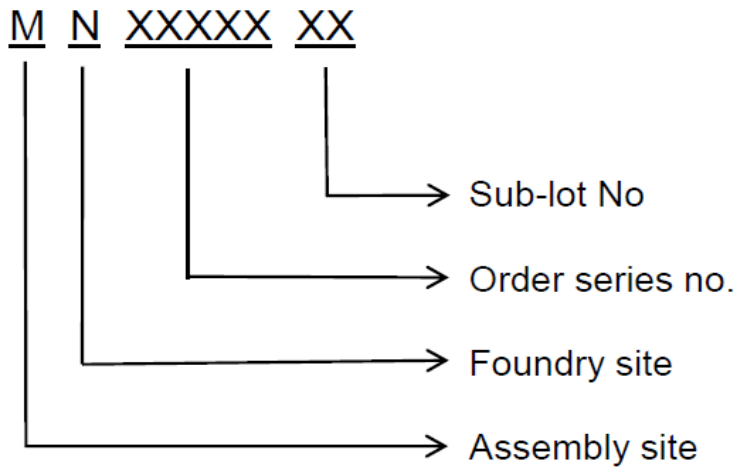
### B. Tape&Reel Information:3000pcs/Reel



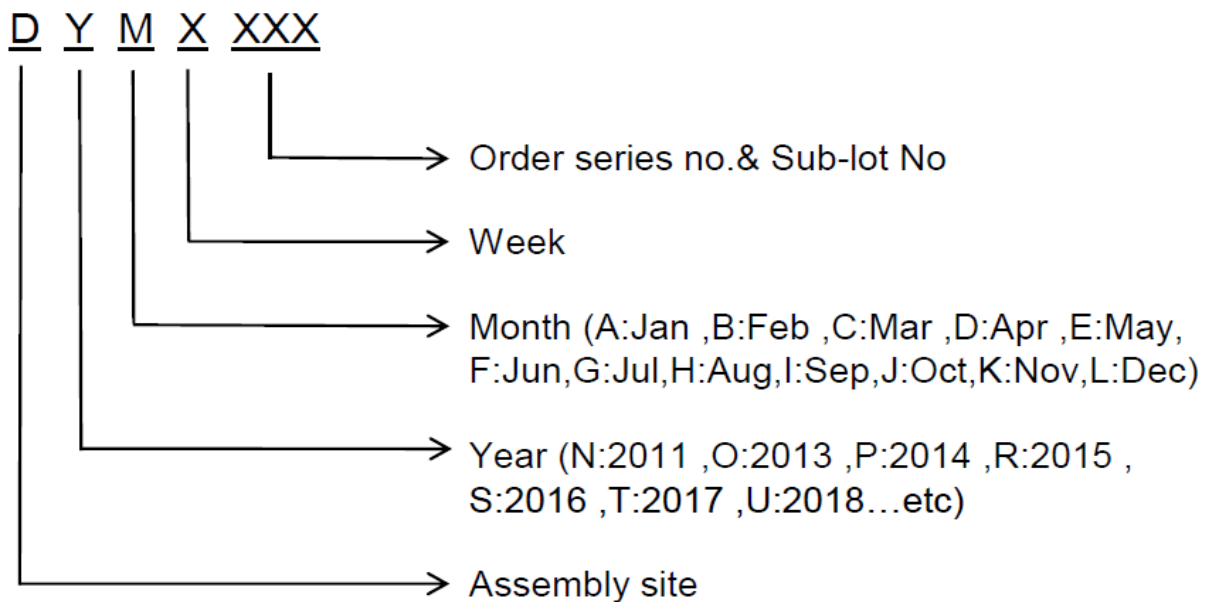
**PM557BA**  
**P-Channel Enhancement Mode MOSFET**

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

1.Lot No.



2.Date Code





# PM557BA

## P-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	U-NIKC	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	RoHS label	 long axis: 12 mm minor axis: 6 mm bottom color: White Font color: Black Font style: Arial
11	Halogen Free label	 Diameter: 10 mm bottom color: Green Font color: Black Font style: Arial
12	Scan information	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