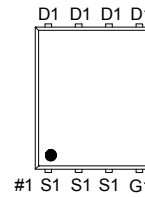
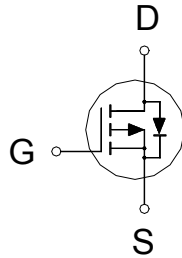


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-30V	8mΩ	-38A



G : GATE
D : DRAIN
S : SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±25	V
Continuous Drain Current	$T_C = 25\text{ °C}$	I_D	-38	A
	$T_C = 100\text{ °C}$		-24	
	$T_A = 25\text{ °C}$		-12	
	$T_A = 70\text{ °C}$		-10	
Pulsed Drain Current ¹		I_{DM}	-100	
Avalanche Current		I_{AS}	-37	
Avalanche Energy	L = 0.1mH	E_{AS}	68.4	mJ
Power Dissipation	$T_C = 25\text{ °C}$	P_D	20	W
	$T_C = 100\text{ °C}$		8.3	
	$T_A = 25\text{ °C}$		2.3	
	$T_A = 70\text{ °C}$		1.4	
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 ²	$R_{\theta JA}$		54	°C / W
Junction-to-Case	$R_{\theta JC}$		6	

¹Pulse width limited by maximum junction temperature.

²The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25\text{ °C}$. The value in any given application depends on the user's specific board design.

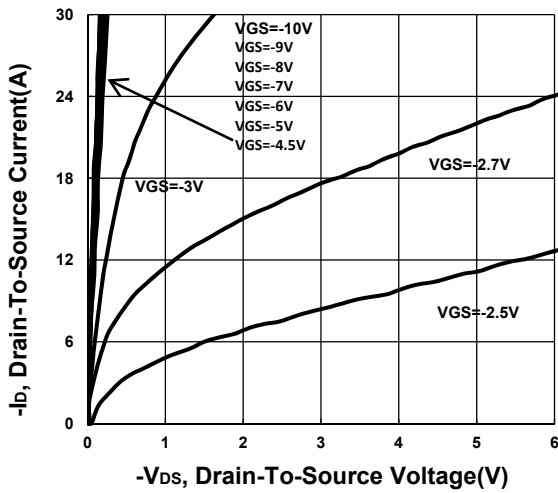
ELECTRICAL CHARACTERISTICS (T_J = 25 °C, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-30			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1	-1.6	-3	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±25V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -24V, V _{GS} = 0V			-1	uA
		V _{DS} = -20V, V _{GS} = 0V, T _J = 125 °C			-10	
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = -4.5V, I _D = -12A		8.9	14	mΩ
		V _{GS} = -10V, I _D = -12A		5.9	8	
Forward Transconductance ¹	g _{fs}	V _{DS} = -5V, I _D = -12A		40		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = -15V, f = 1MHz		2464		pF
Output Capacitance	C _{oss}			374		
Reverse Transfer Capacitance	C _{rss}			271		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		3.9		Ω
Total Gate Charge ²	Q _{g(VGS=-10V)}	V _{DS} = -15V, I _D = -12A		60		nC
	Q _{g(VGS=-4.5V)}			27.6		
Gate-Source Charge ²	Q _{gs}			8		
Gate-Drain Charge ²	Q _{gd}			13.6		
Turn-On Delay Time ²	t _{d(on)}		V _{DS} = -15V, I _D ≅ -12A, V _{GS} = -10V, R _{GS} = 6Ω		22	
Rise Time ²	t _r			25		
Turn-Off Delay Time ²	t _{d(off)}			100		
Fall Time ²	t _f			75		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current	I _S				-15	A
Forward Voltage ¹	V _{SD}	I _F = -12A, V _{GS} = 0V			-1.3.	V
Reverse Recovery Time	t _{rr}	I _F = -12A, di _F /dt = 100 A / μS		26		nS
Reverse Recovery Charge	Q _{rr}			13		nC

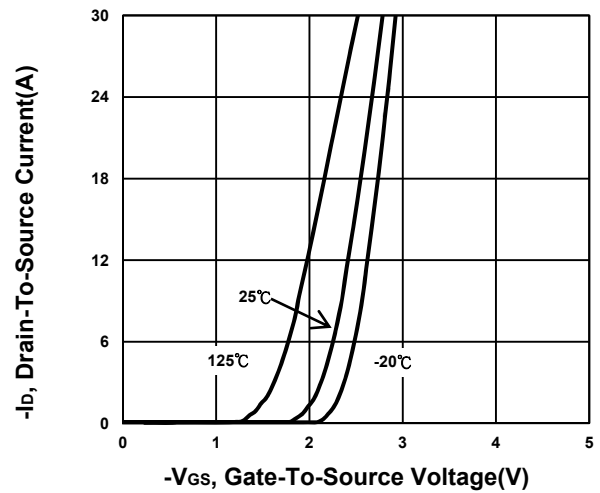
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

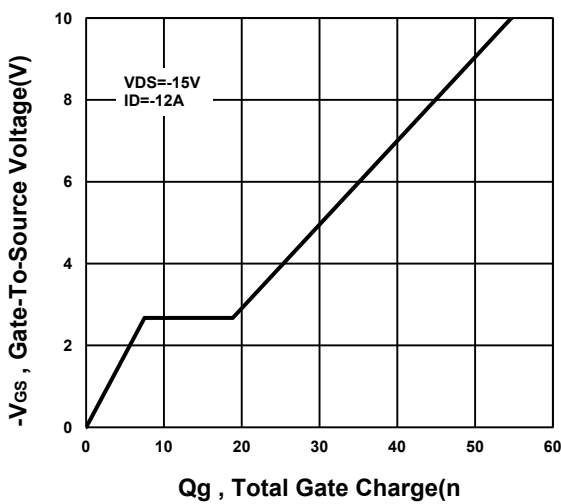
Output Characteristics



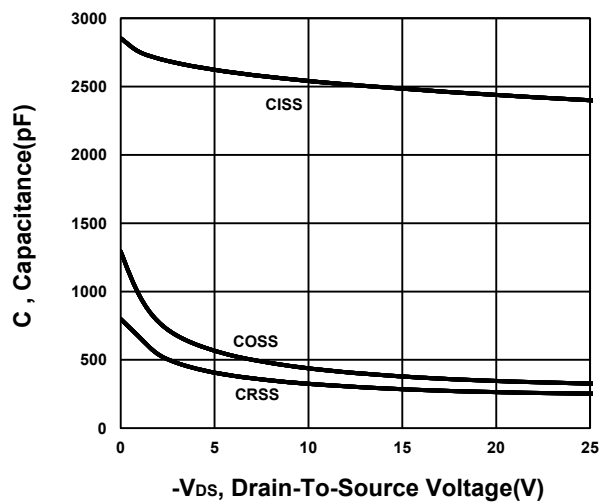
Transfer Characteristics



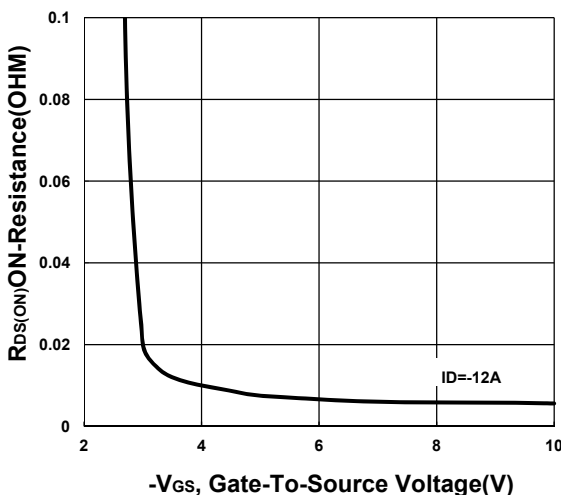
Gate charge Characteristics



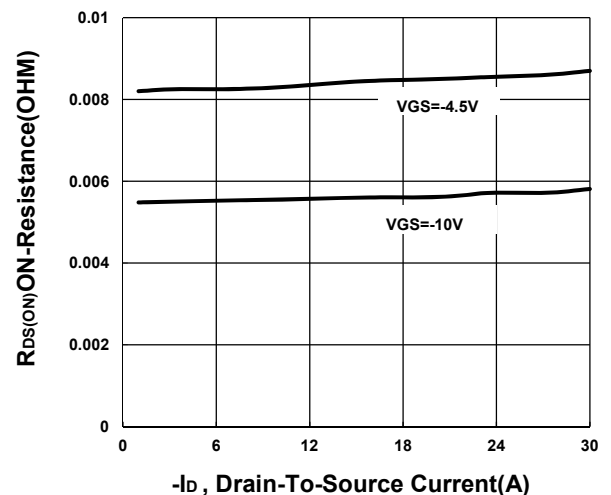
Capacitance Characteristic



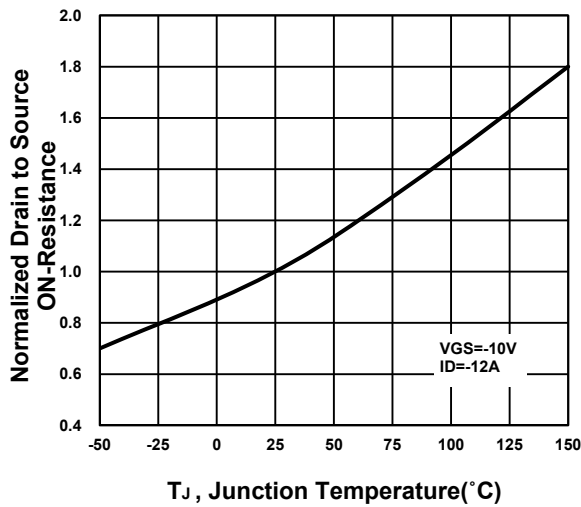
On-Resistance VS Gate-To-Source



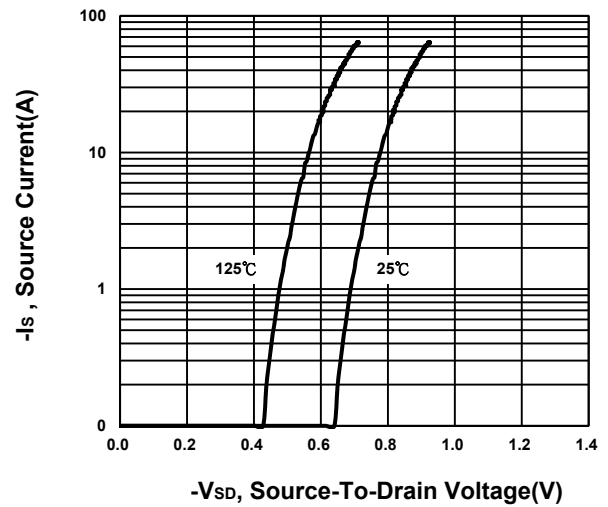
On-Resistance VS Drain Current



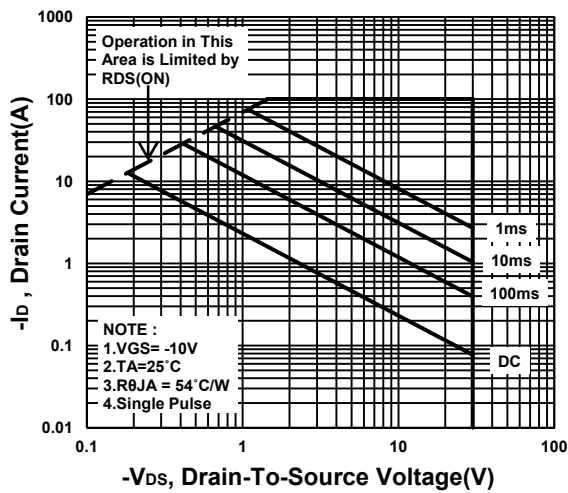
On-Resistance VS Temperature



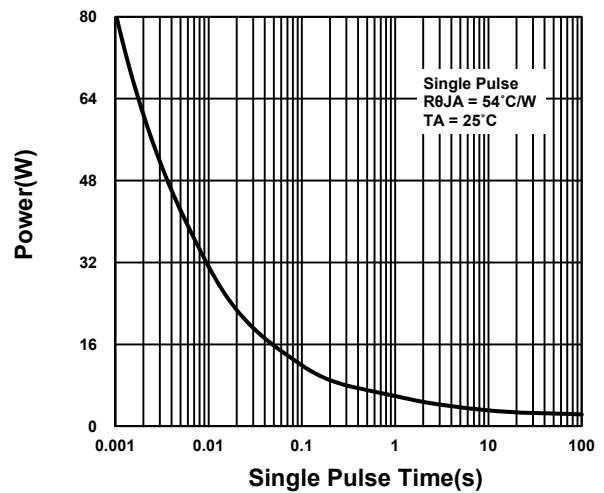
Source-Drain Diode Forward Voltage



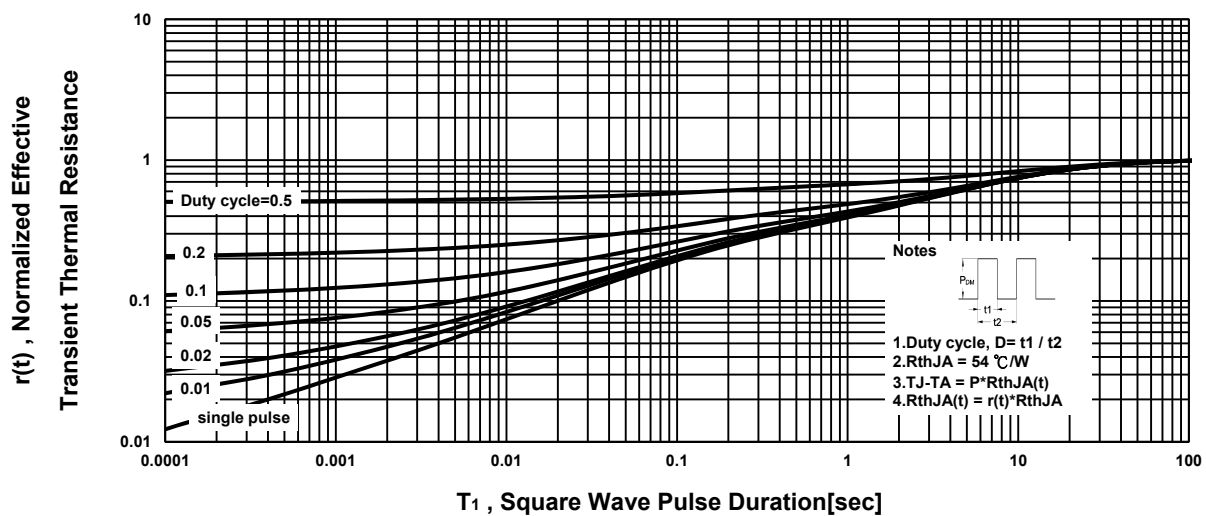
Safe Operating Area



Single Pulse Maximum Power Dissipation



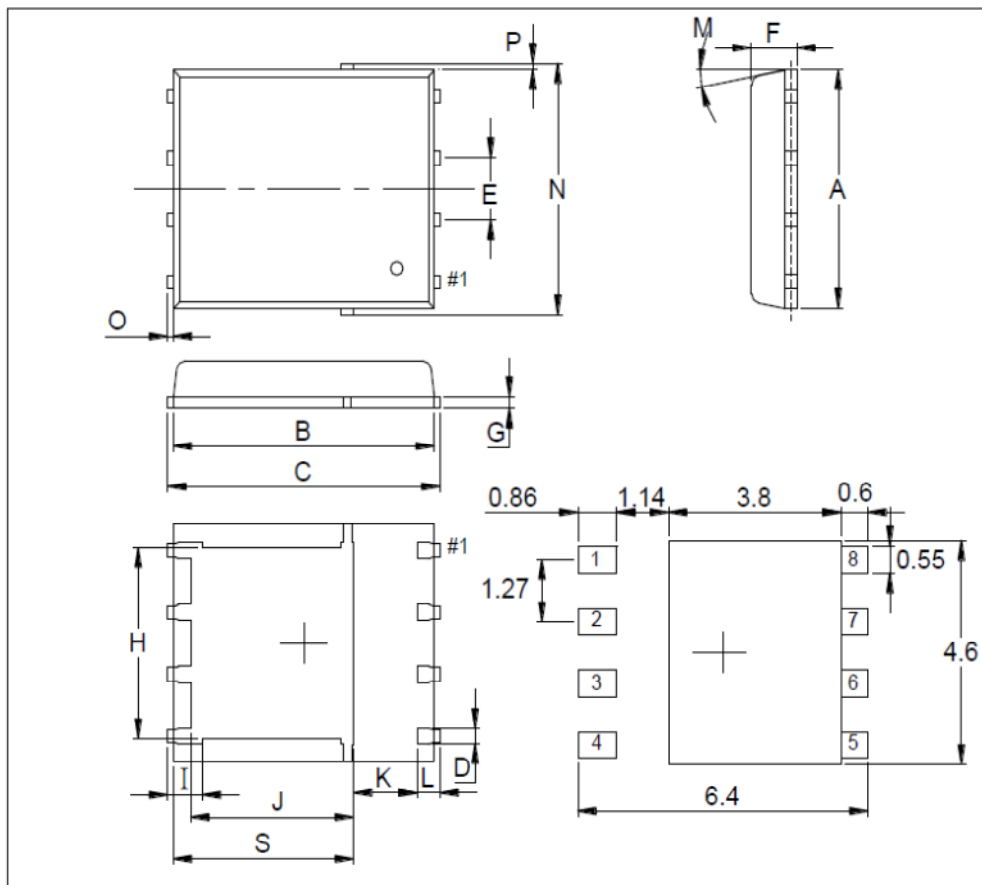
Transient Thermal Response Curve



Package Dimension

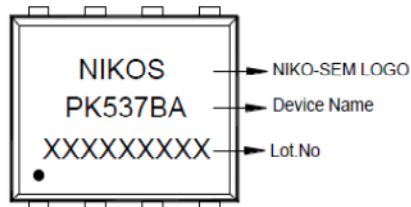
PDFN 5x6P MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.8		5.15	J	3.34		3.9
B	5.42		5.9	K	0.9		
C	5.9		6.35	L	0.38		0.711
D	0.3		0.51	M	0°		12°
E	1.17	1.27	1.37	N	4.8		5.4
F	0.8	1	1.2	O	0.05		0.36
G	0.15		0.35	P	0.05		0.25
H	3.67		4.31	S	3.73		4.19
I	0.38		0.71				



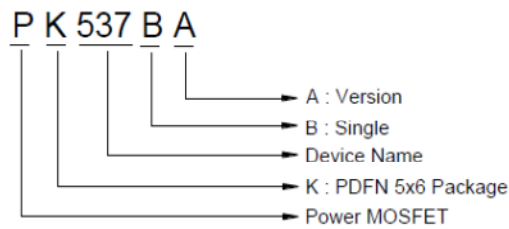
Marking Information:(Please see the corresponding data sheet)

1. 零件Marking 文字面說明

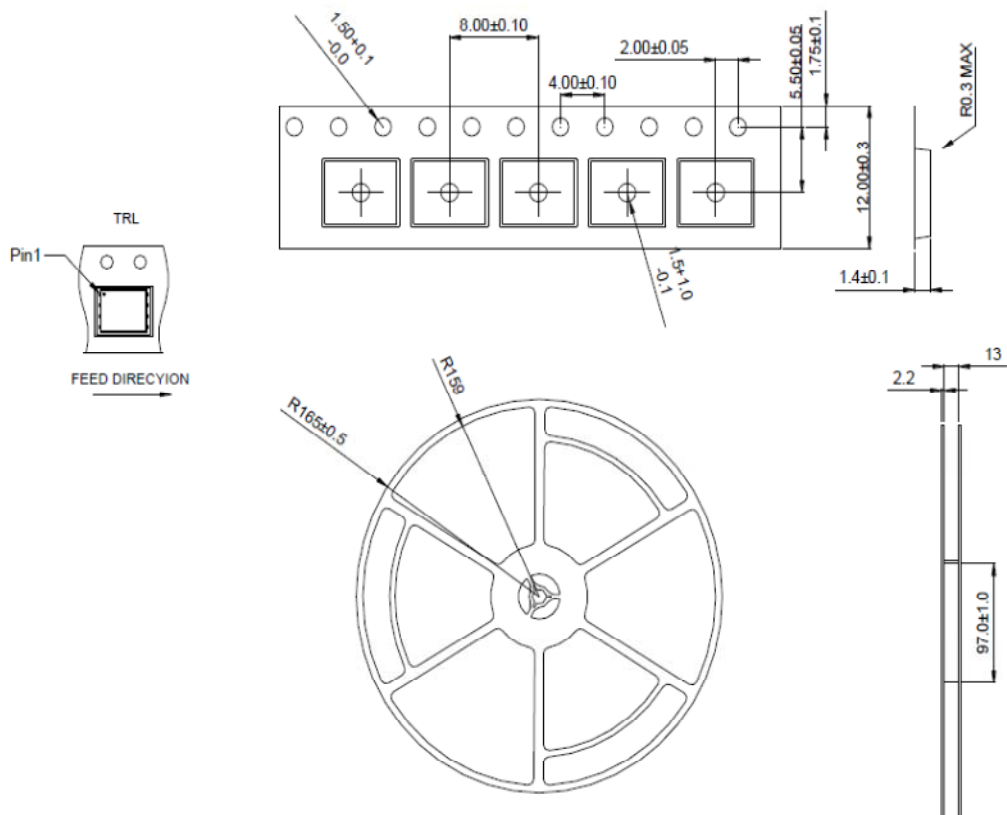


#1

2. 零件 Part number 說明



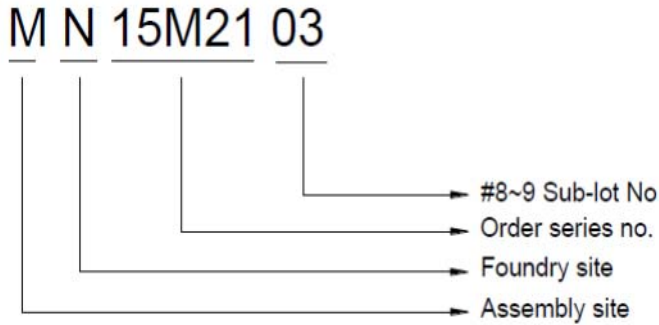
Tape&Reel Information:3000pcs/Reel



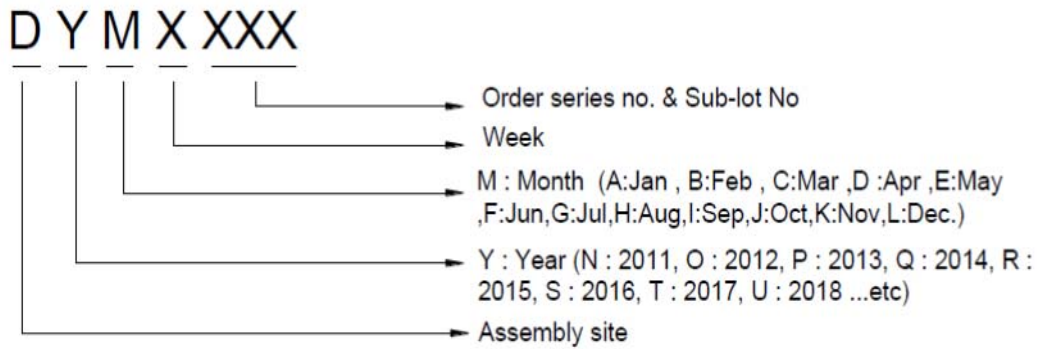
附註:All Dimension in milimeter

Lot.No. & Date Code rule

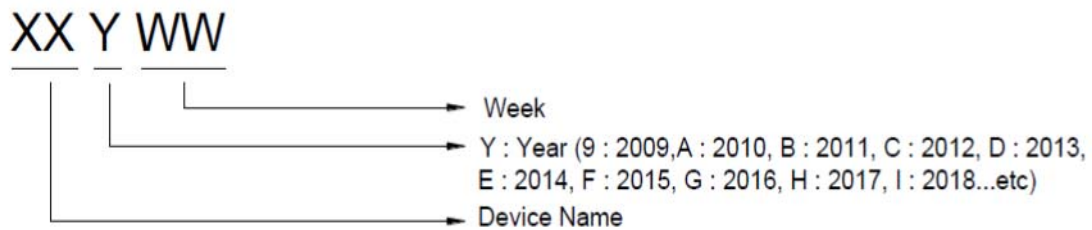
1.LOT.NO.



2.Date Code

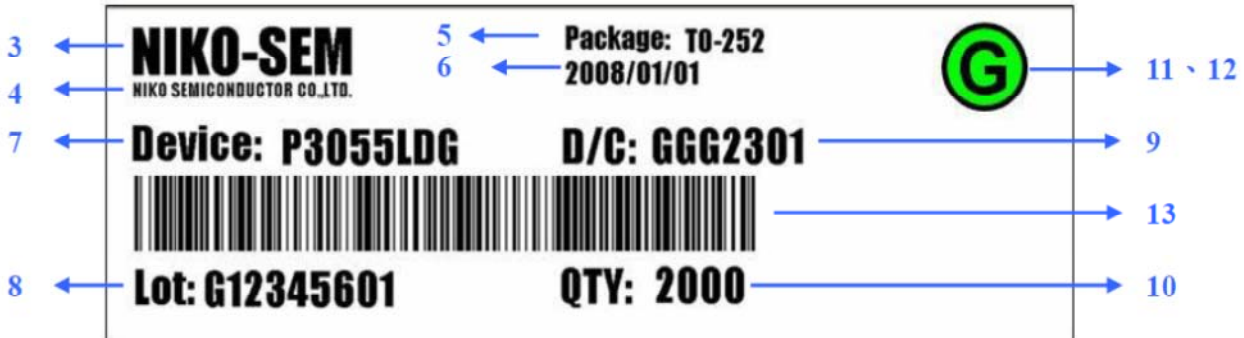




3.Date Code (for Small package)



Label rule

標籤內容 (Label content)



1	Label Size	30 * 90 mm
2	Font style	Times New Roman or Arial (或可區分英文”O”和數字”0”，”G 和”Q”的字型即可) (Or any font capable of being distinguished for Letter O and digital 0, and for G and Q))
3	NIKO-SEM	Height: 4 mm
4	NIKO SEMICONDUCTOR CO., LTD.	Height: 1 mm
5	Package	Height: 2 mm
6	Date	Height: 2 mm Shipping date: YYYY/MM/DD, ex. 2008/09/12
7	Device	Height: 3 mm (Max: 16 Digit) Device Name not including Rev.
8	Lot	Height: 3 mm (Max: 9 Digit) Sub lot
9	D/C	Height: 3 mm (Max: 7 Digit)
10	QTY	Height: 3 mm (Max: 6 Digit) Thousand mark is no needed
11	Pb Free label	 Diameter: 1 cm bottom color: Green Font color: Black Font style: Arial
12	Halogen Free label	 Diameter: 1 cm bottom color: Green Font color: Black Font style: Arial
13	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