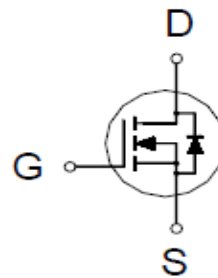


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PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30V	7mΩ @ $V_{GS} = 10V$	36A



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

PARAMETERS/TEST CONDITIONS	SYMBOL	LIMITS	UNITS	
Drain-Source Voltage	V_{DS}	30	V	
Gate-Source Voltage	V_{GS}	± 20		
Continuous Drain Current	I_D	$T_C = 25\text{ }^\circ\text{C}$	36	
		$T_C = 100\text{ }^\circ\text{C}$	23	
Pulsed Drain Current ¹	I_{DM}	100	A	
Continuous Drain Current	I_D	$T_A = 25\text{ }^\circ\text{C}$		12
		$T_A = 70\text{ }^\circ\text{C}$		9.2
Avalanche Current	I_{AS}	23		
Avalanche Energy	E_{AS}	26.4	mJ	
Power Dissipation	P_D	$T_C = 25\text{ }^\circ\text{C}$	16.7	
		$T_C = 100\text{ }^\circ\text{C}$	6.7	
		$T_A = 25\text{ }^\circ\text{C}$	1.7	
		$T_A = 70\text{ }^\circ\text{C}$	1	
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 ²	$R_{\theta JA}$		75	$^\circ\text{C} / \text{W}$
Junction-to-Case	$R_{\theta JC}$		7	

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 $T_A = 25^\circ\text{C}$.

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			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	1.35	1.8	3	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 24V, V _{GS} = 0V			1	μA
		V _{DS} = 20V, V _{GS} = 0V, T _J = 55 °C			10	
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 4.5V, I _D = 12A		7	9.5	mΩ
		V _{GS} = 10V, I _D = 12A		5.4	7	
Forward Transconductance ¹	g _{fs}	V _{DS} = 5V, I _D = 12A		55		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 15V, f = 1MHz		835		pF
Output Capacitance	C _{oss}			158		
Reverse Transfer Capacitance	C _{rss}			96		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		2.4		Ω
Total Gate Charge ²	Q _g (V _{GS} =10V)	V _{DS} = 15V, I _D = 12A		17.7		nC
	Q _g (V _{GS} =4.5V)			9.5		
Gate-Source Charge ²	Q _{gs}			2.3		
Gate-Drain Charge ²	Q _{gd}			5.1		
Turn-On Delay Time ²	t _{d(on)}		V _{DS} = 15V, I _D ≅ 12A, V _{GS} = 10V, R _{GEN} = 6Ω		27	
Rise Time ²	t _r			23		
Turn-Off Delay Time ²	t _{d(off)}			51		
Fall Time ²	t _f			24		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current	I _S				14	A
Forward Voltage ¹	V _{SD}	I _F = 12A, V _{GS} = 0V			1.2	V
Reverse Recovery Time	t _{rr}	I _F = 12A, di _F /dt = 100A / μS		13.3		nS
Reverse Recovery Charge	Q _{rr}			5.2		nC

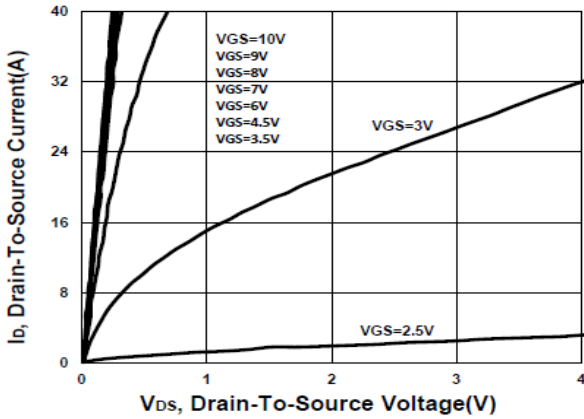
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

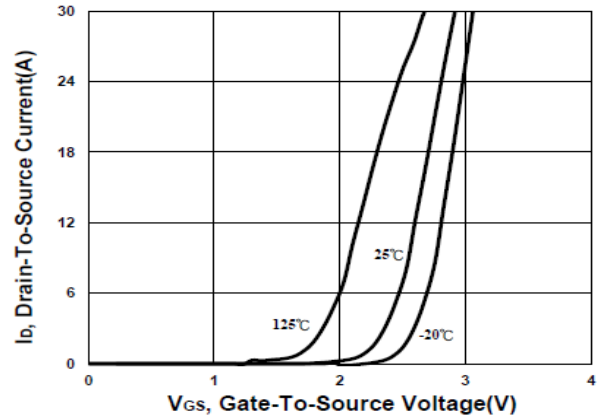
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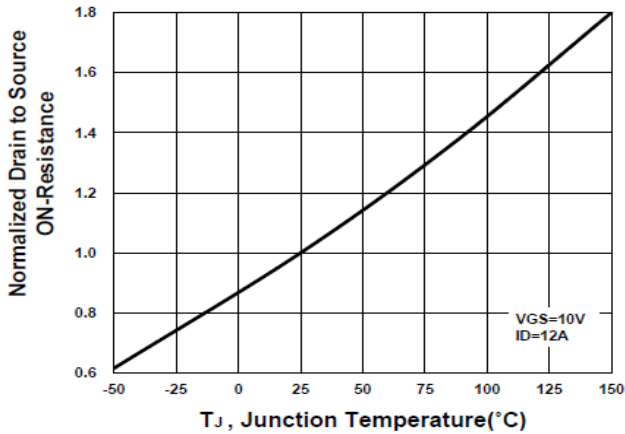
Output Characteristics



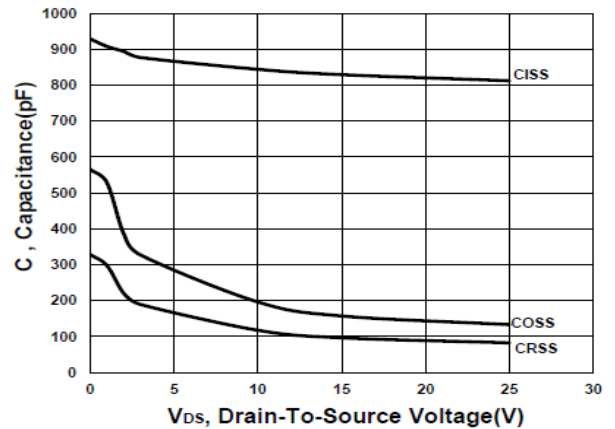
Transfer Characteristics



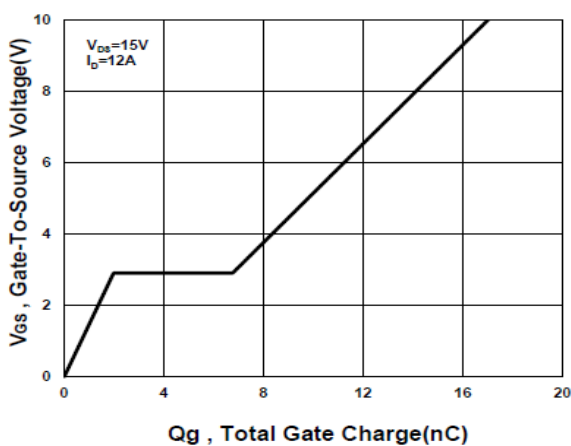
On-Resistance VS Temperature



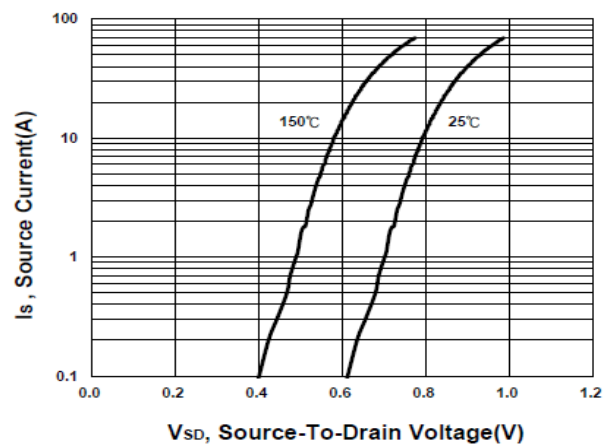
Capacitance Characteristic



Gate charge Characteristics



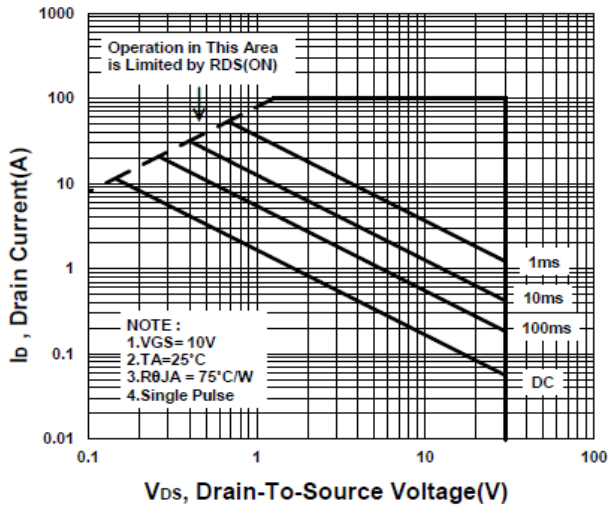
Source-Drain Diode Forward Voltage



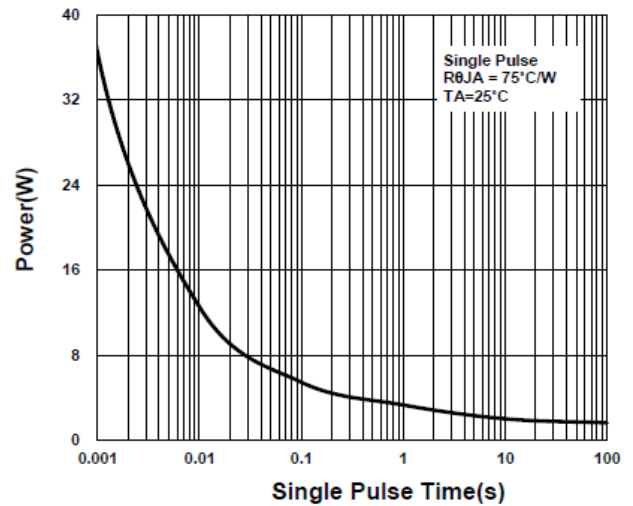
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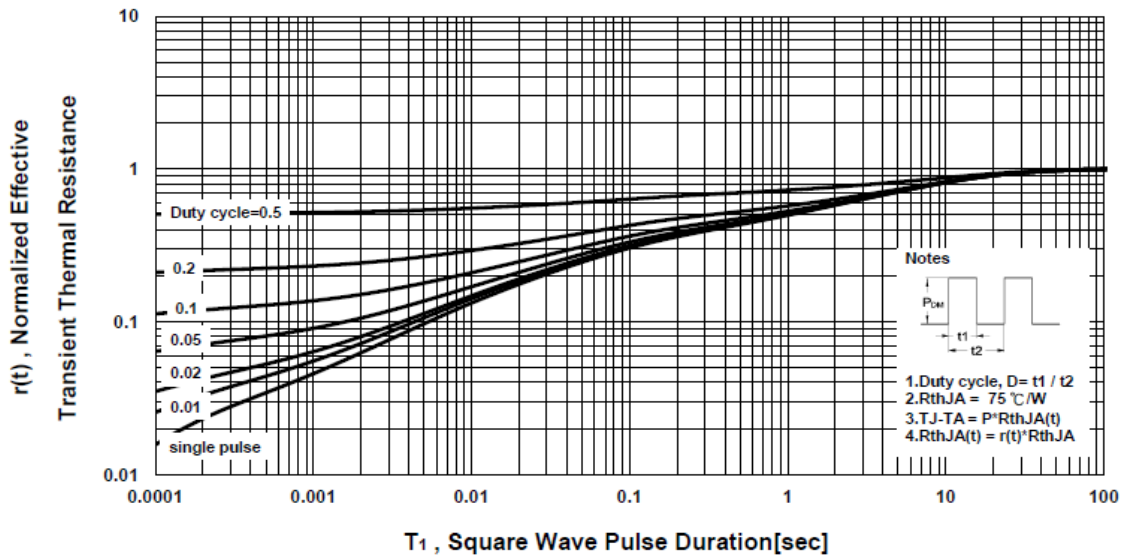
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



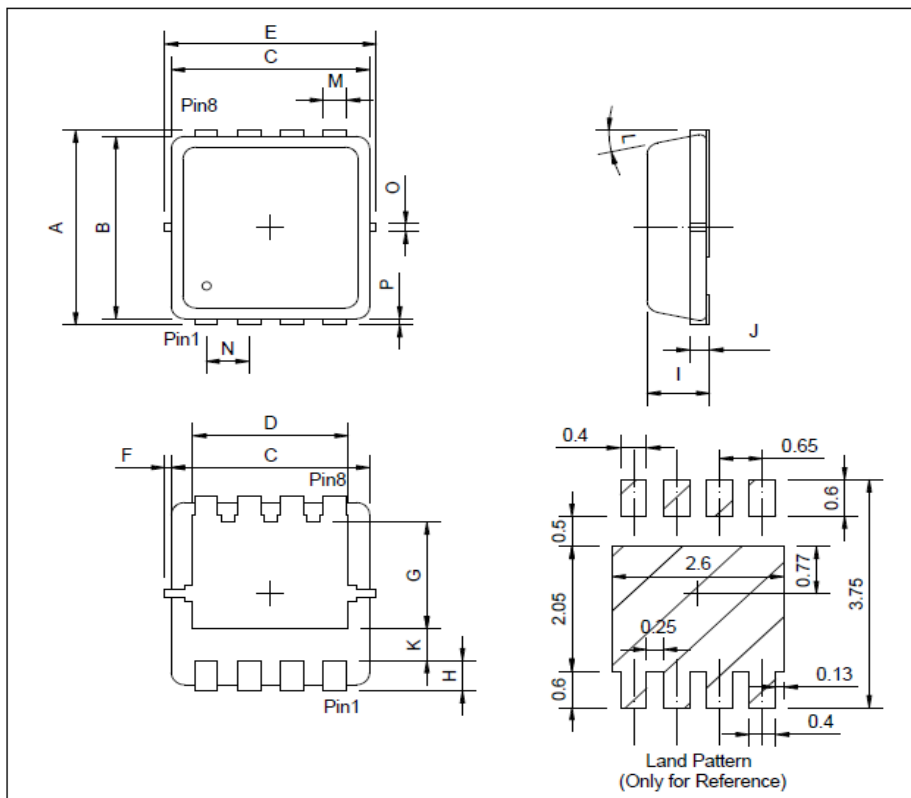
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Package Dimension

PDFN 3x3P MECHANICAL DATA

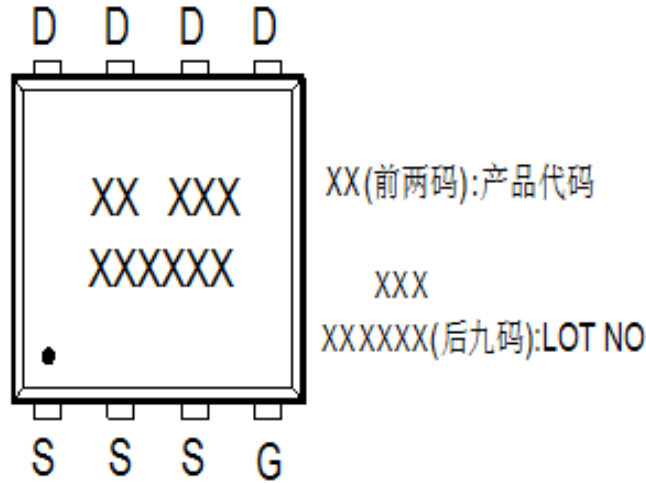
Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	3	3.3	3.6	I	0.65	0.8	0.9
B	2.88	3	3.2	J	0.1	0.15	0.25
C	2.9	3	3.25	K	0.59		
D	2.29	2.45	2.69	L	0°	10°	12°
E	3	3.3	3.6	M	0.14	0.3	0.4
F	0	0.1	0.2	N	0.55	0.65	0.75
G	1.35	1.75	2.2	O		0.2	
H	0.15	0.3	0.55	P	0		0.2



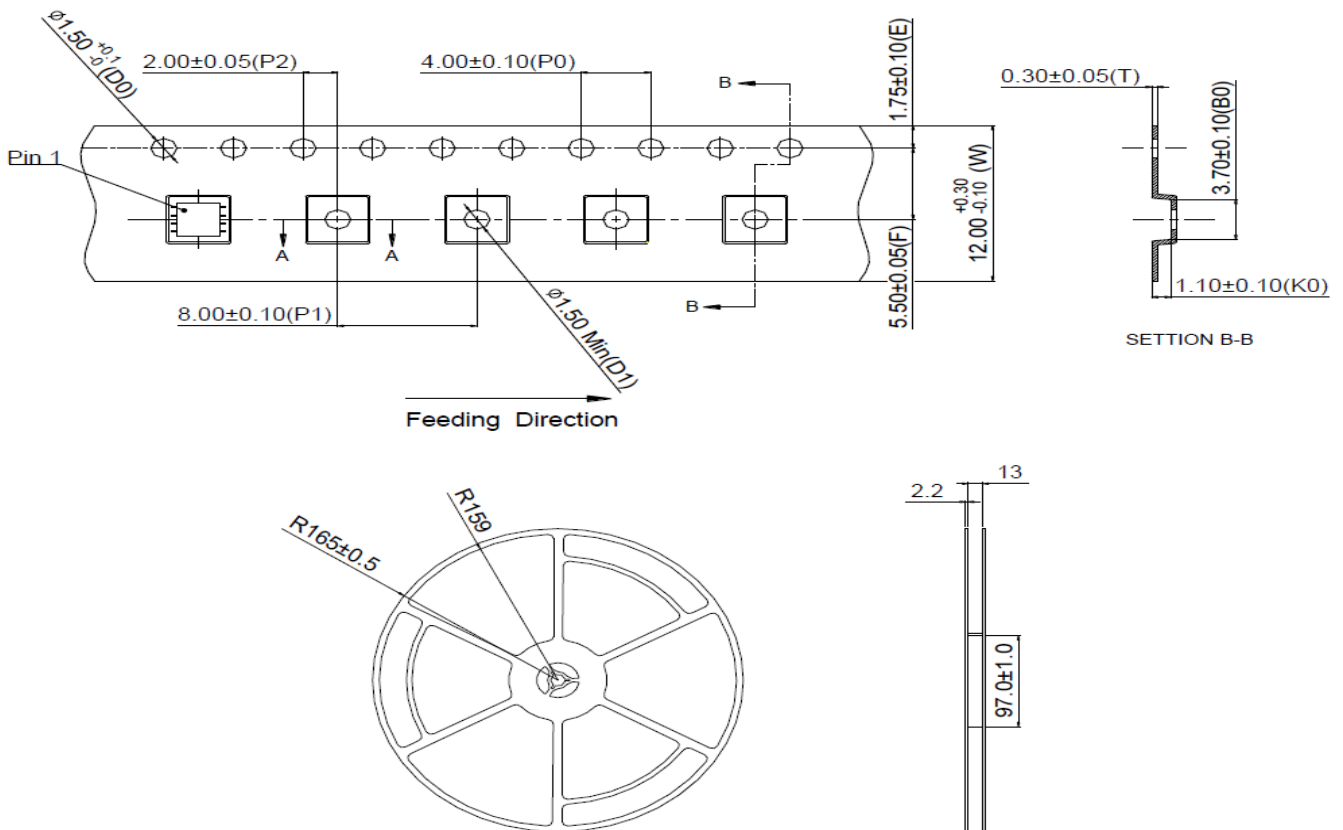
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A. Marking Information(此产品代码为: G4)



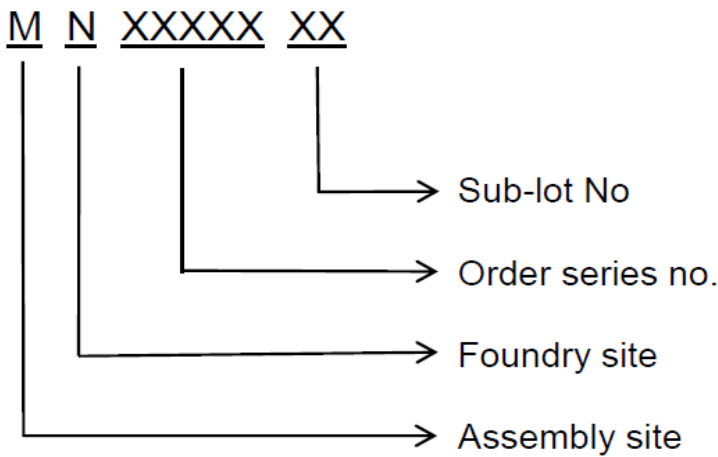
B. Tape&Reel Information:5000pcs/Reel



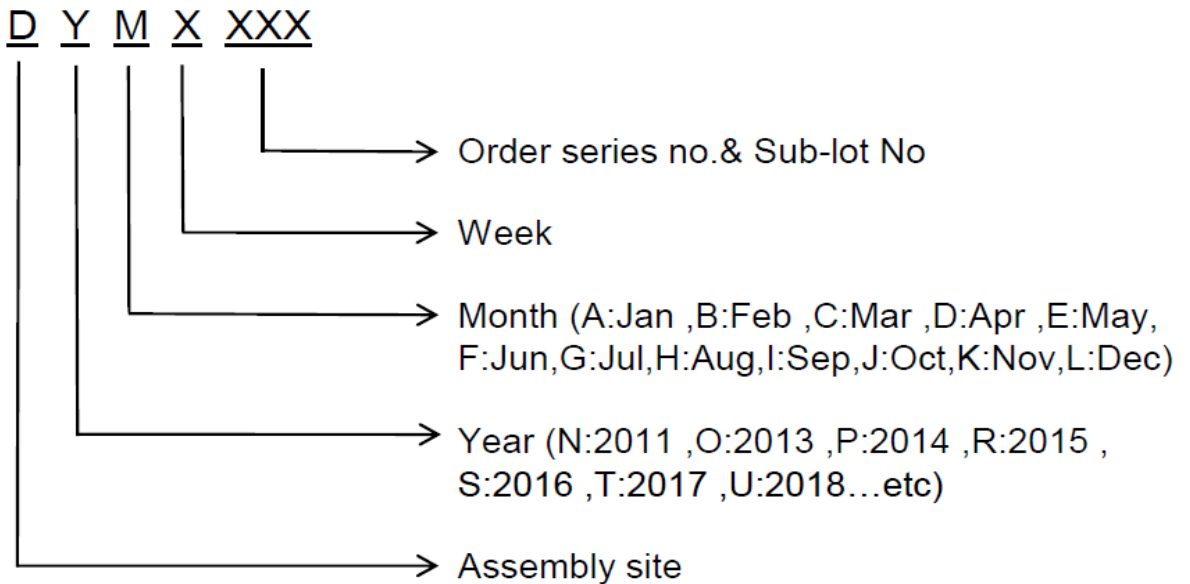
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C. Lot No.&Date Code rule

1.Lot No.



2.Date Code





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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