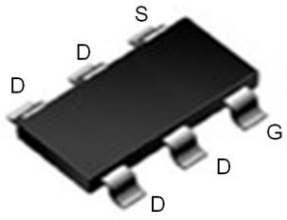
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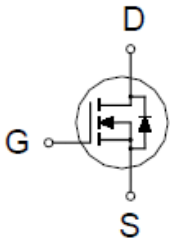
N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30V	20mΩ @V_{GS} = 10V	6.3A



SOT-23-6



ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_A = 25 °C	I_D	6.3	A
	T_A = 70 °C		4.7	
Pulsed Drain Current[1]		I_{DM}	30	
Avalanche Current		I_{AS}	17	
Avalanche Energy	L = 0.1mH	E_{AS}	15	mJ
Power Dissipation	T_A = 25 °C	P_D	1.2	W
	T_A = 70 °C		0.8	
Operating Junction & Storage Temperature Range		T_J, T_{STG}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		40	°C / W
Junction-to-Ambient[2]	$R_{\theta JA}$		98	

[1]Pulse width limited by maximum junction temperature.

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

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N-Channel Enhancement Mode MOSFET

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	1.4	2.5	V
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 = 125 °C			10	μA
Drain-Source On-State Resistance[1]	$R_{DS(ON)}$	V_{GS} = 10V, I_D = 6.3A		15.3	20	Ω
		V_{GS} = 4.5V, I_D = 6.3A		18.2	25	Ω
Forward Transconductance[1]	g_{fs}	V_{DS} = 5V, I_D = 6.3A		41		S
DYNAMIC						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 25V, f = 1MHz		496		pF
Output Capacitance	C_{oss}			81		pF
Reverse Transfer Capacitance	C_{rss}			73		pF
Total Gate Charge[2]	$Q_{g(VGS=10V)}$	V_{DS} = 15V,I_D = 6.3A		14.4		nC
	$Q_{g(VGS=4.5V)}$			8		nC
Gate-Source Charge[2]	Q_{gs}			1.6		nC
Gate-Drain Charge[2]	Q_{gd}			3.9		nC
Turn-On Delay Time[2]	$t_{d(on)}$	V_{DD} = 15V I_D ≅ 6.3A, V_{GS} = 10V, R_{GEN} = 6Ω		12		nS
Rise Time[2]	t_r			10		nS
Turn-Off Delay Time[2]	$t_{d(off)}$			27		nS
Fall Time[2]	t_f			10		nS
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICE (T_J = 25 °C)						
Continuous Current[2]	I_S				6.3	A
Forward Voltage[1]	V_{SD}	I_F = 6.3A, V_{GS} = 0V			1	V
Reverse Recovery Time	t_{rr}	I_F = 6.3A, dI_F/dt=100A/μs V_{GS} = 0V		10.7		nS
Reverse Recovery Charge	Q_{rr}			2.6		nC

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

[2]Independent of operating temperature.

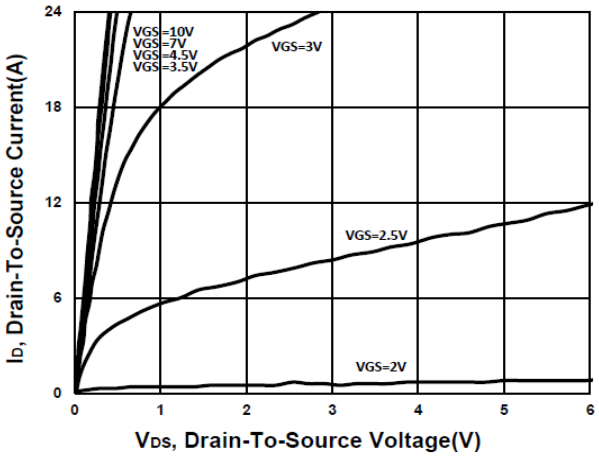
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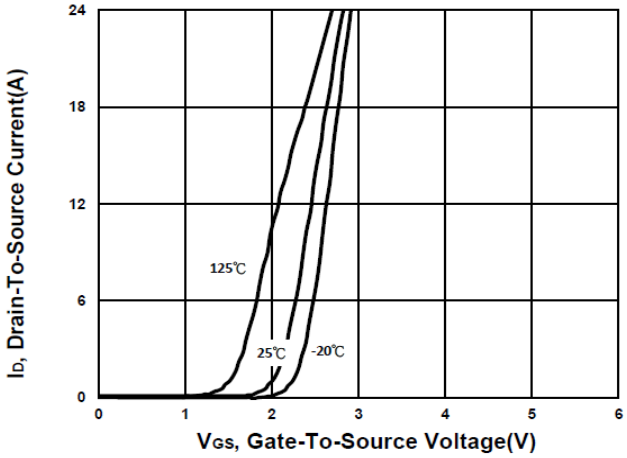
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N-Channel Enhancement Mode MOSFET

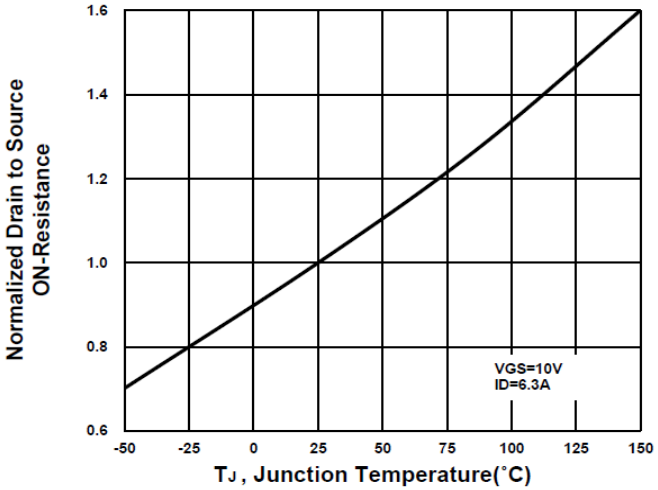
Output Characteristics



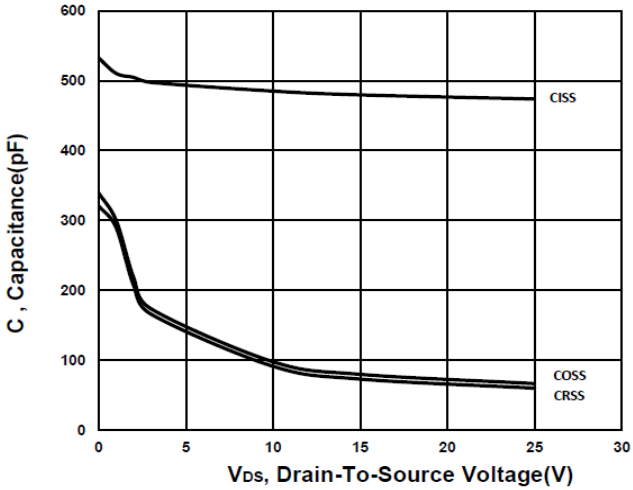
Transfer Characteristics



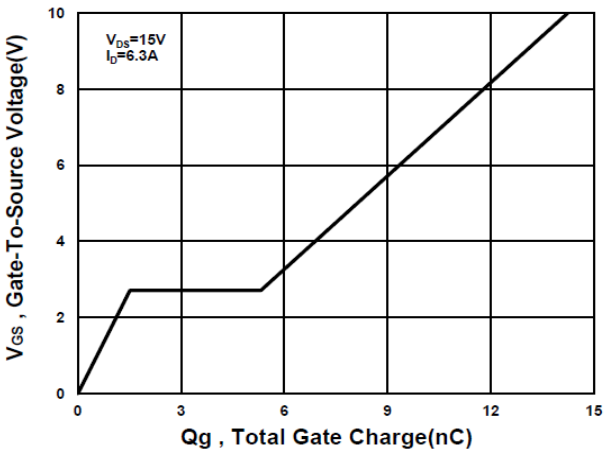
On-Resistance VS Temperature



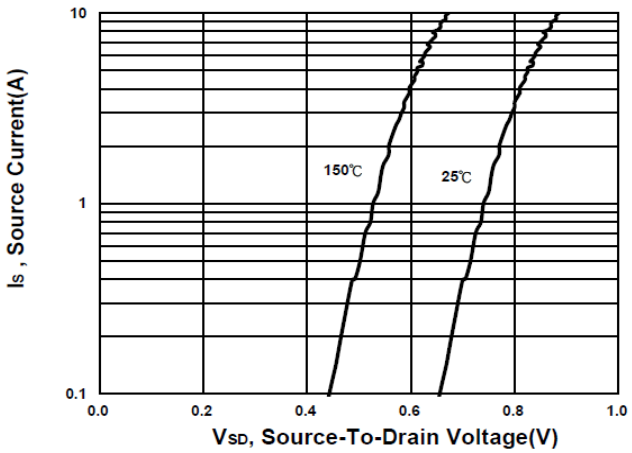
Capacitance Characteristic



Gate charge Characteristics



Source-Drain Diode Forward Voltage



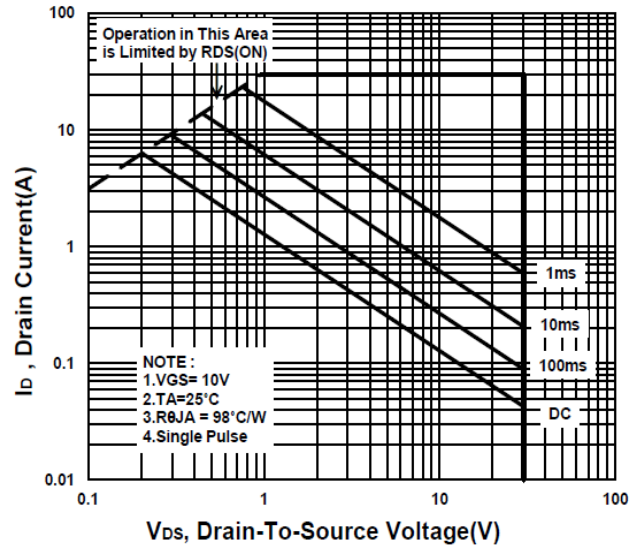
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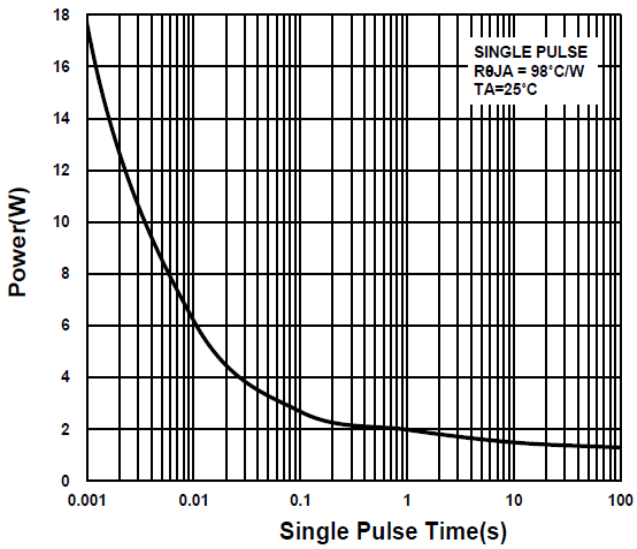
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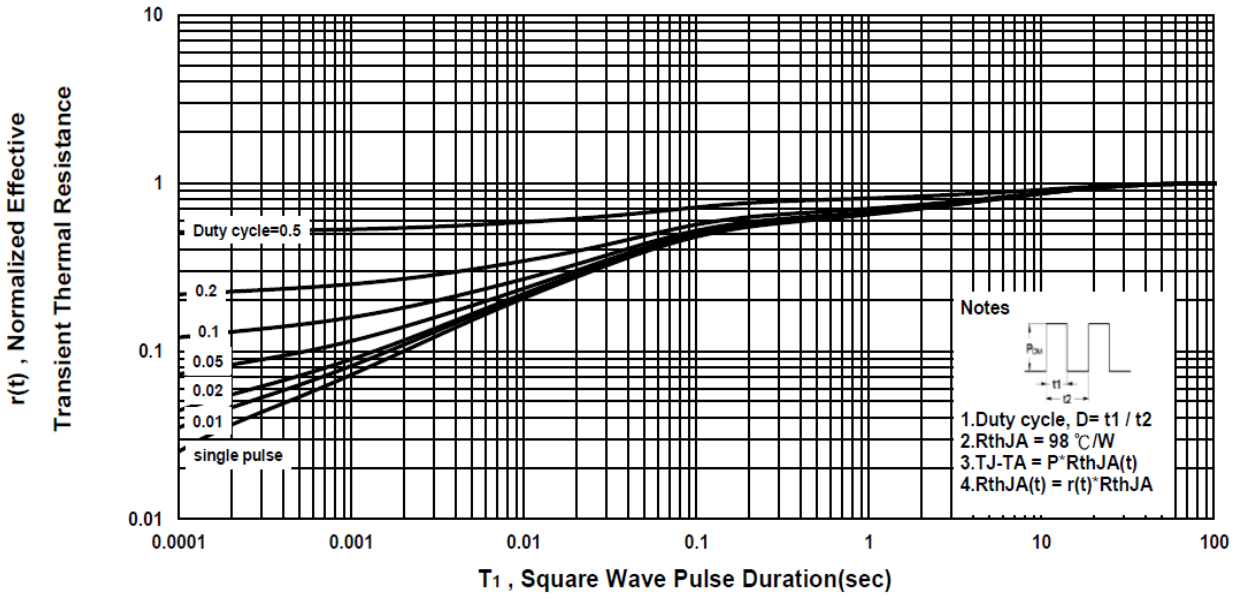
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



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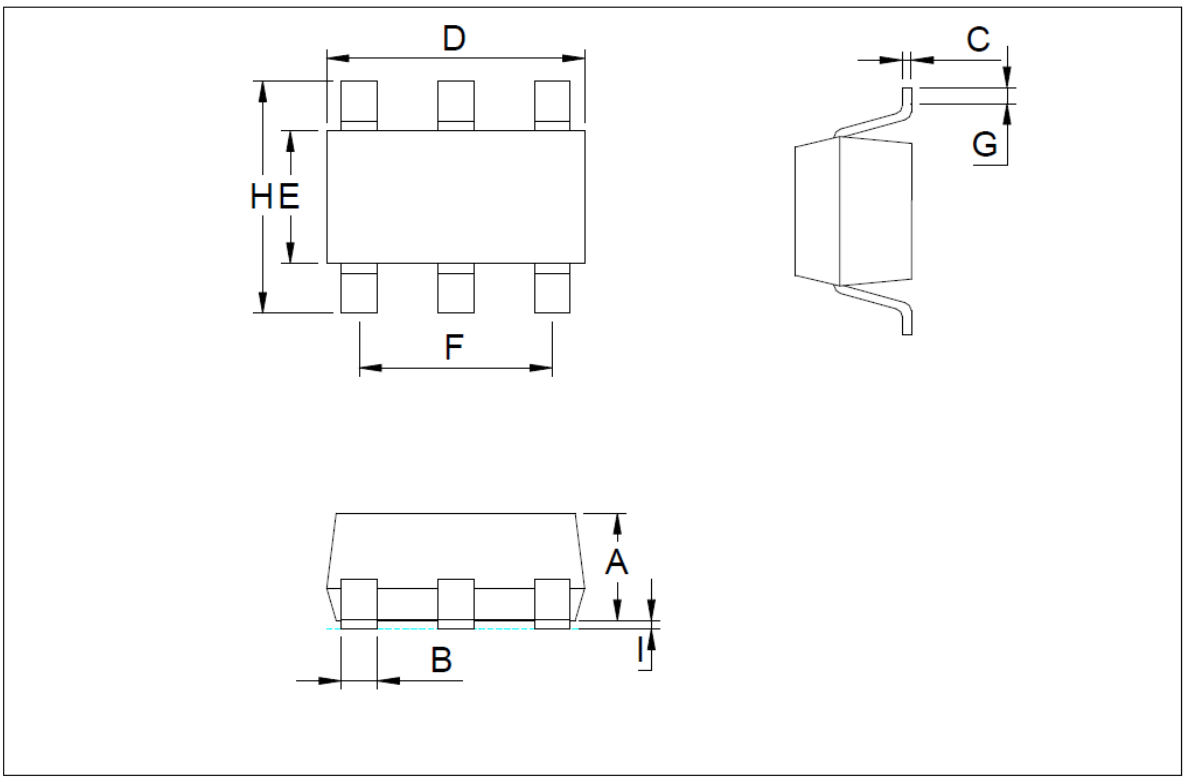
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N-Channel Enhancement Mode MOSFET

Package Dimension

SOT-23-6 MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	0.9	1.07	1.15	H	2.6	2.8	3.0
B	0.3	0.4	0.5	I	0		0.1
C	0.1	0.15	0.25				
D	2.8	2.9	3.1				
E	1.4	1.6	1.7				
F	1.8		2.0				
G	0.3	0.45	0.6				



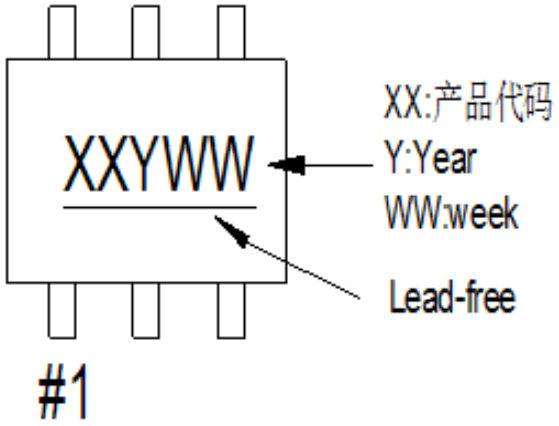
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RoHS Compliant

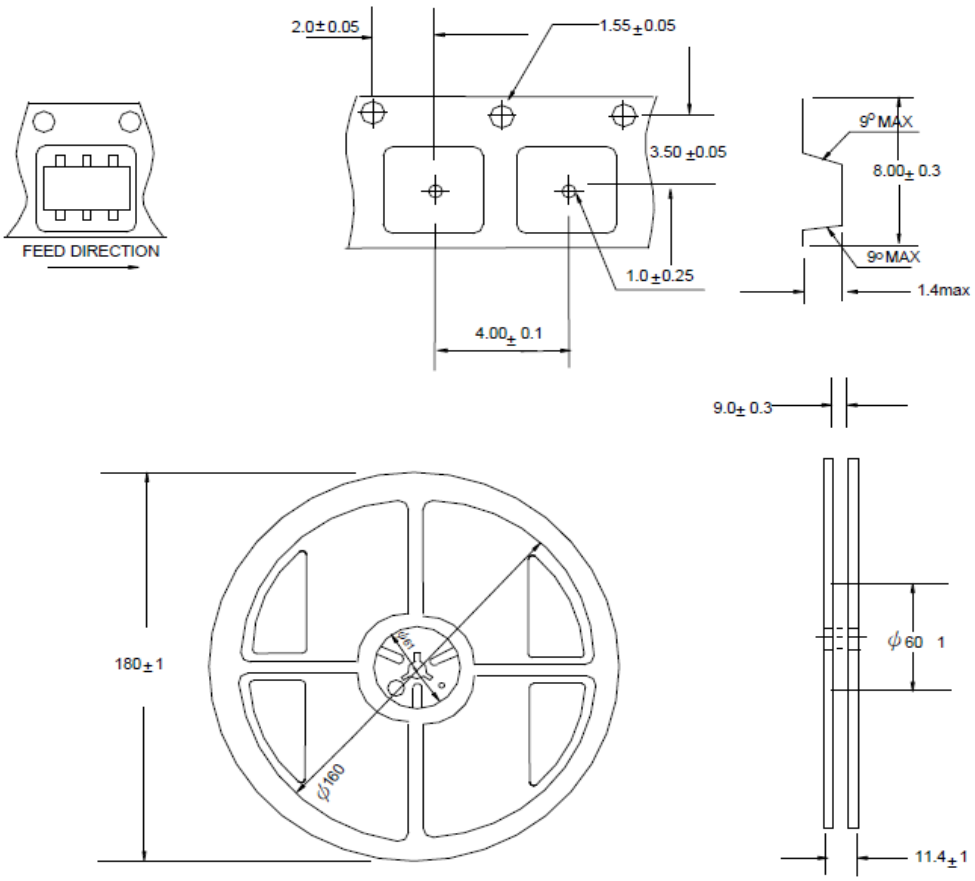
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N-Channel Enhancement Mode MOSFET

A. Marking Information (此产品代码为：72)



B. Tape&Reel Information:3000pcs/Reel

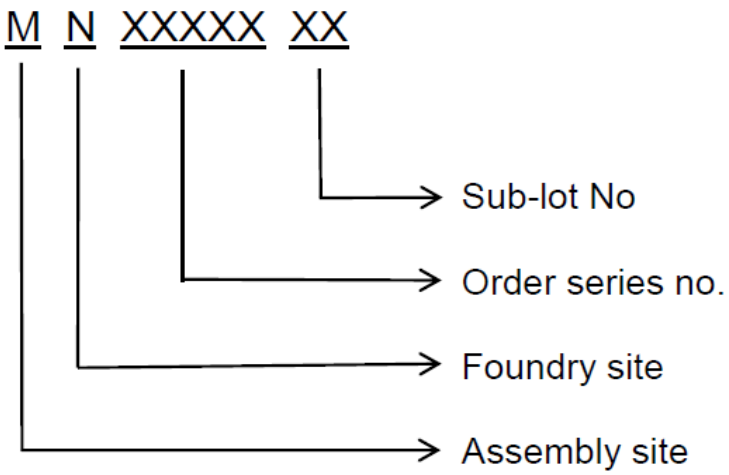


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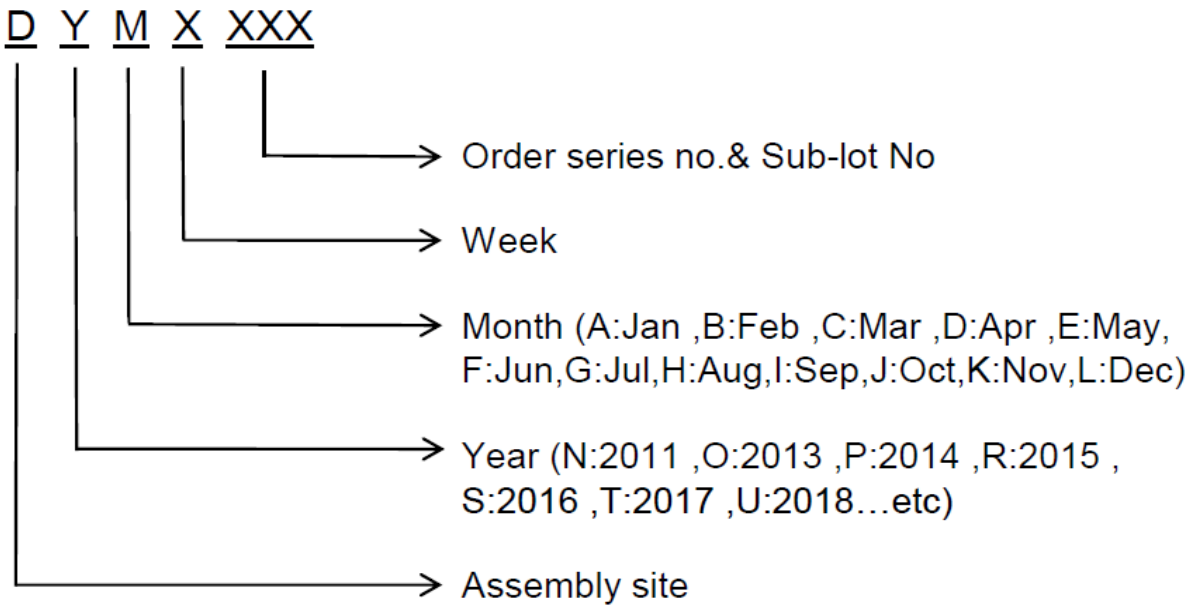
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C. Lot No.&Date Code rule

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	RoHS long axis: 12 mm minor axis:6 mm bottom color: White Font color: Black Font style: Arial
11	Halogen Free label	G 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