UNIKC Semiconductor

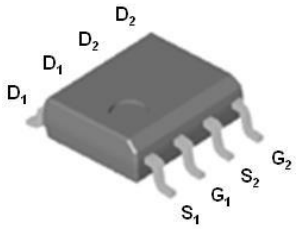
RoHS Compliant

PV628DA

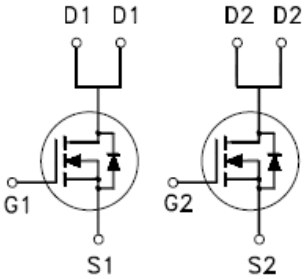
N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30V	14mΩ @V_{GS} = 10V	8.1A



SOP-8



ABSOLUTE MAXIMUM RATINGS (T_A = 25 °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	T_A = 25 °C	I_D	8.1	A
	T_A = 70 °C		6.5	
Pulsed Drain Current[1]		I_{DM}	31	
Avalanche Current		I_{AS}	14.6	
Avalanche Energy	L =0.1mH	E_{AS}	10.7	mJ
Power Dissipation	T_A= 25 °C	P_D	1.7	W
	T_A =70 °C		1.1	
Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		70	°C / W
Junction-to-Case	$R_{\theta JC}$		25	

[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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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	1.3	1.75	2.3	
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 = 6.8A		14	20	mΩ
		V_{GS} = 10V, I_D = 8A		11	14	
Forward Transconductance[1]	g_{fs}	V_{DS} = 5V, I_D = 8A		32		S
DYNAMIC						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 15V, f = 1MHz		431		pF
Output Capacitance	C_{oss}			86		
Reverse Transfer Capacitance	C_{rss}			53		
Gate Resistance	R_g	V_{GS} = 0V, V_{DS} = 0V, f = 1MHz		3.8		Ω
Total Gate Charge[2]	Q_g(V_{GS}=10V)	V_{DS} = 15V , I_D = 8A		9.2		nC
	Q_g(V_{GS}=4.5V)			5		
Gate-Source Charge[2]	Q_{gs}			1.4		
Gate-Drain Charge[2]	Q_{gd}			2.6		
Turn-On Delay Time[2]	$t_{d(on)}$	V_{DS} = 15V, I_D ≅ 8A, V_{GS} = 10V, R_{GEN} = 6Ω		18		nS
Rise Time[2]	t_r			20		
Turn-Off Delay Time[2]	$t_{d(off)}$			34		
Fall Time[2]	t_f			19		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current	I_S				1.7	A
Forward Voltage[1]	V_{SD}	I_F = 8A, V_{GS} = 0V			1	V
Reverse Recovery Time	t_{rr}	I_F = 8A, dI_F/dt = 100A / μS		9.6		nS
Reverse Recovery Charge	Q_{rr}			1.8		nC

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

[2]Independent of operating temperature.

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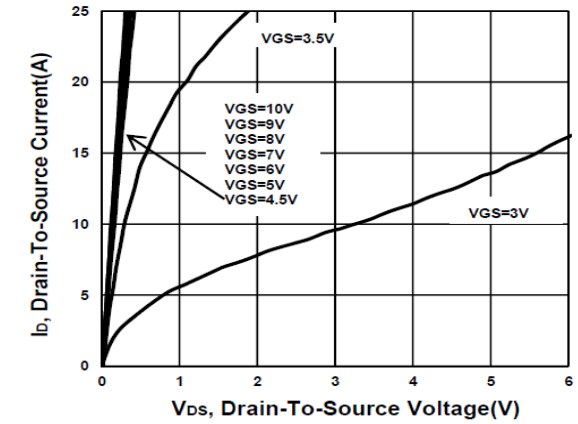
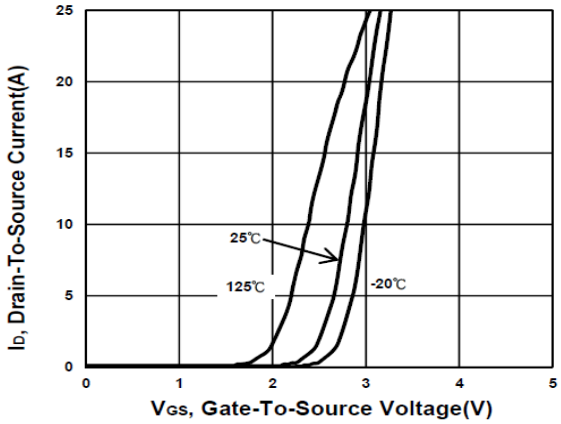
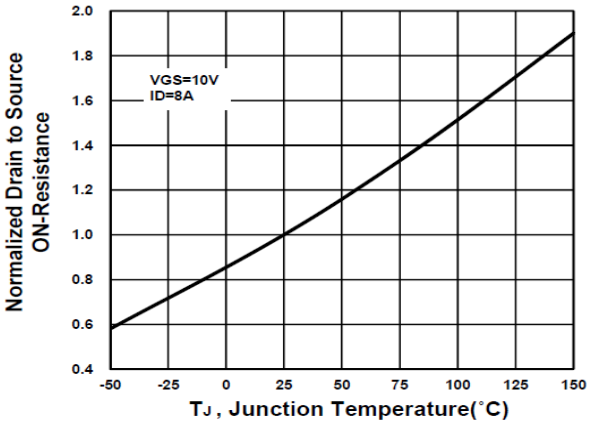
Output Characteristics



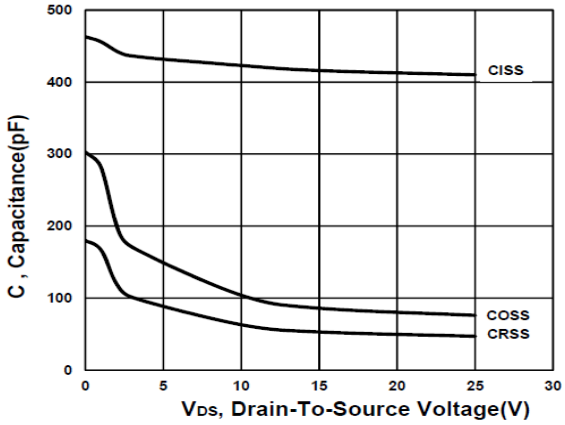
Transfer Characteristics



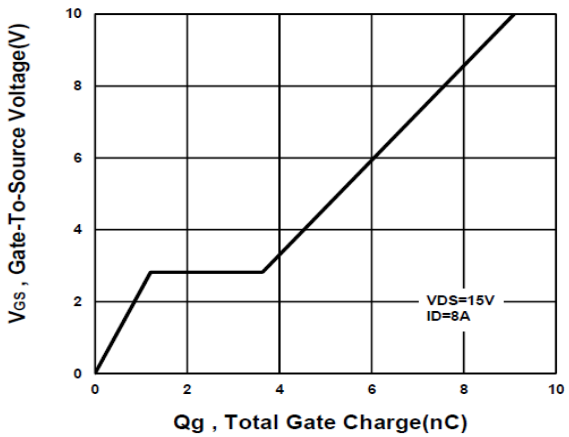
On-Resistance VS Temperature



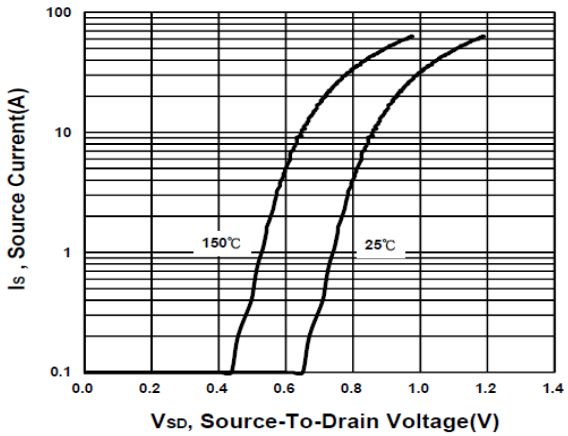
Capacitance Characteristic



Gate charge Characteristics



Source-Drain Diode Forward Voltage



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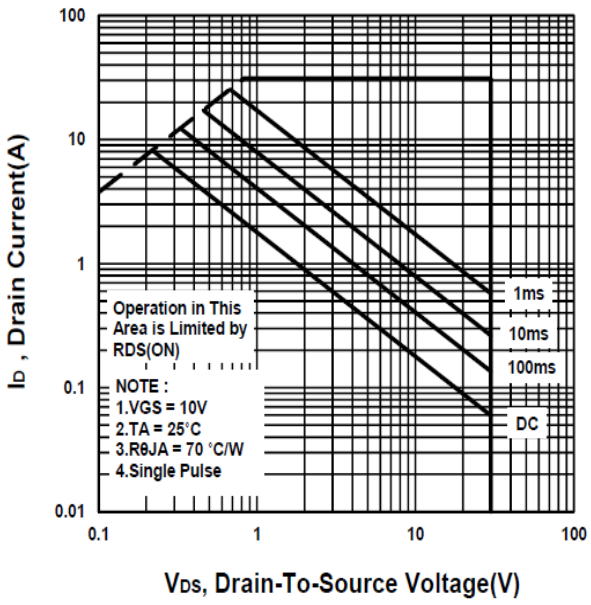
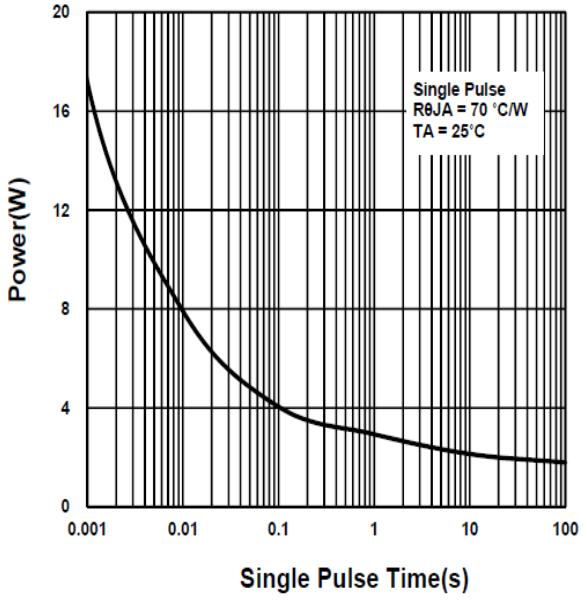
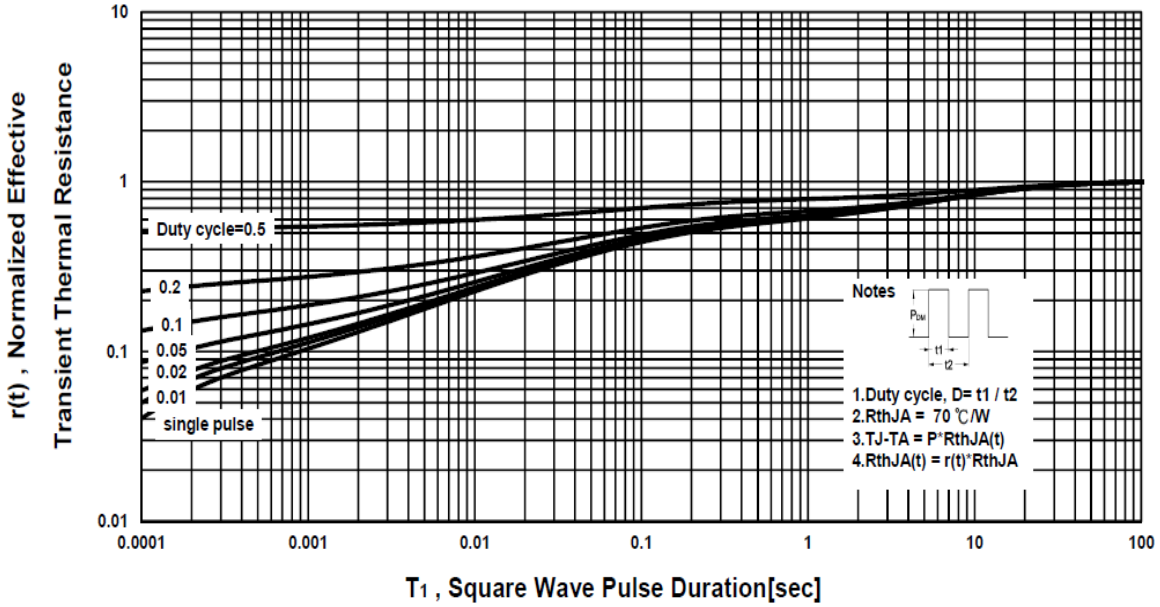
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



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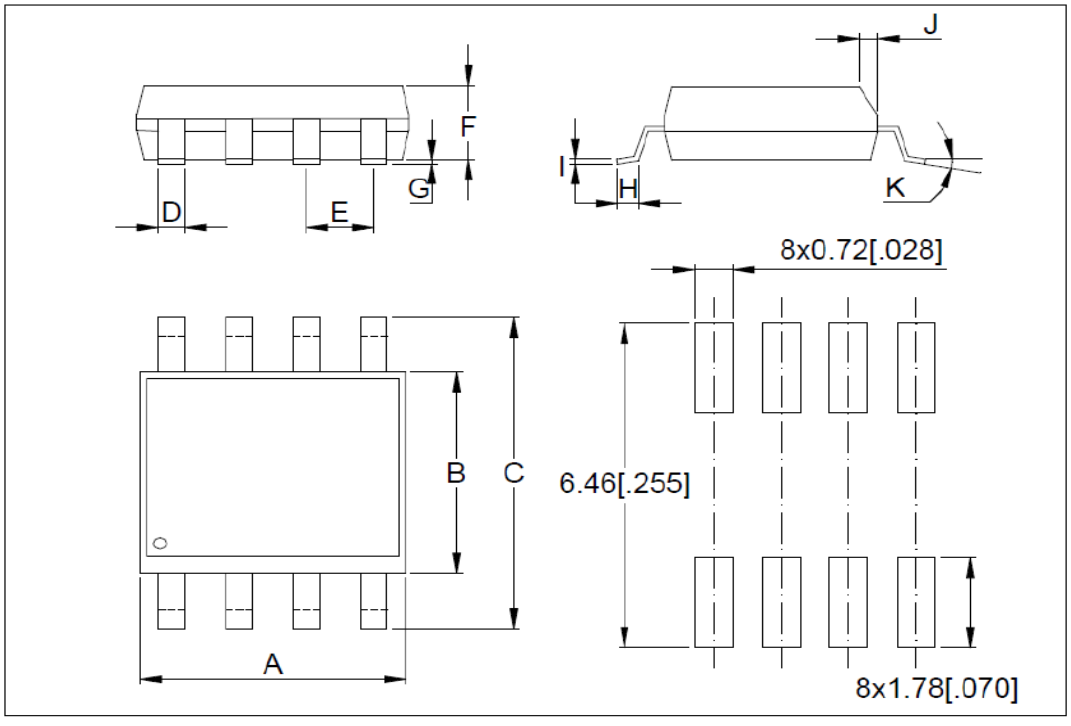
Package Dimension

SOP-8 MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.8	4.9	5.0	H	0.4	0.6	0.93
B	3.8	3.9	4.0	I	0.19	0.21	0.25
C	5.79	6.0	6.2	J	0.25	0.375	0.5
D	0.33	0.4	0.51	K	0°	3°	18°
E	1.25	1.27	1.29				
F	1.1	1.3	1.65				
G	0.05	0.15	0.25				



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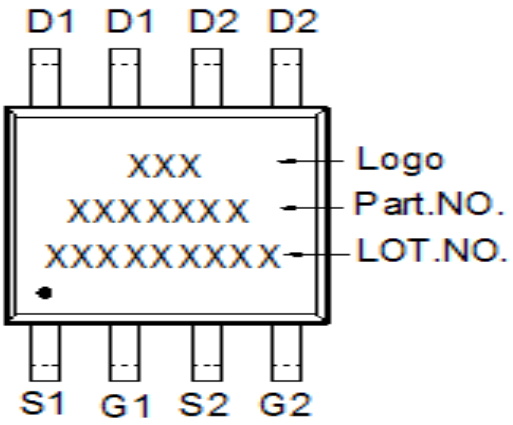
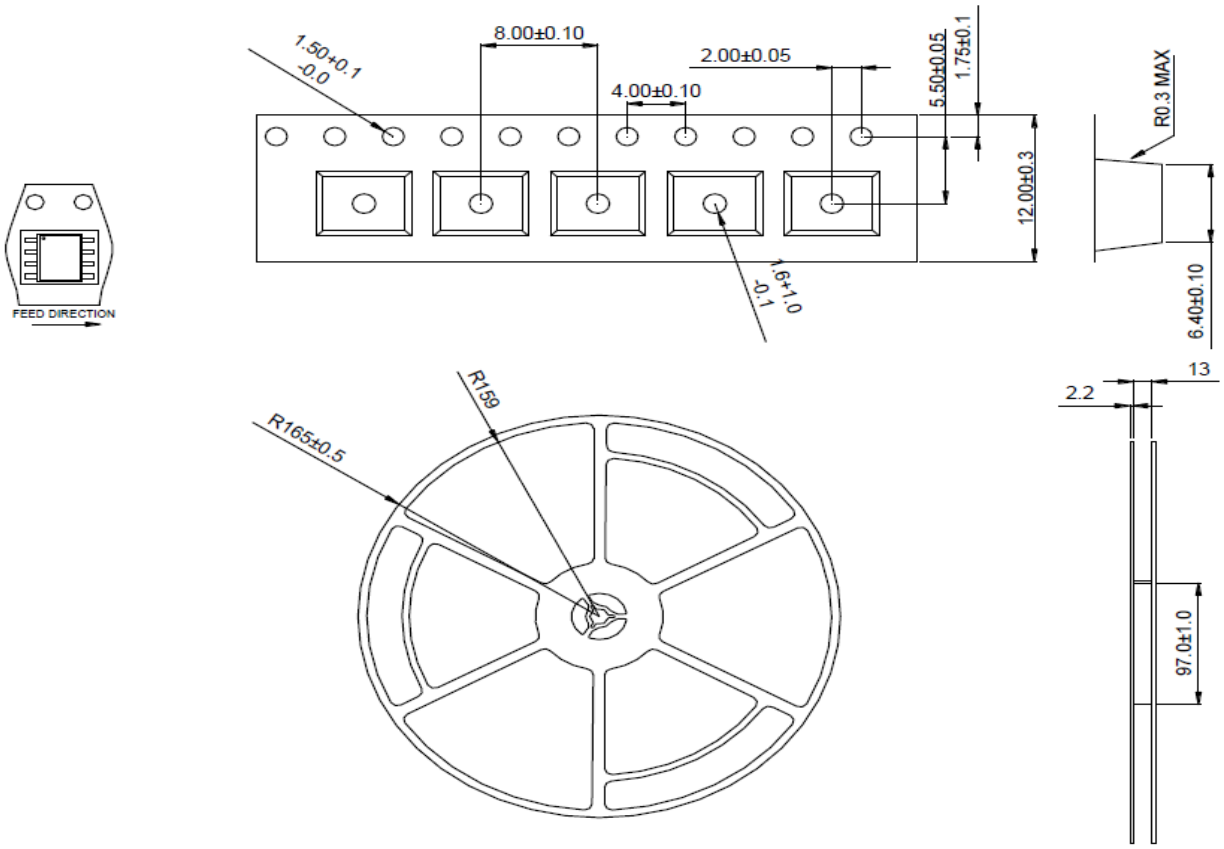
A. Marking Information



B. Tape&Reel Information:2500pcs/Reel



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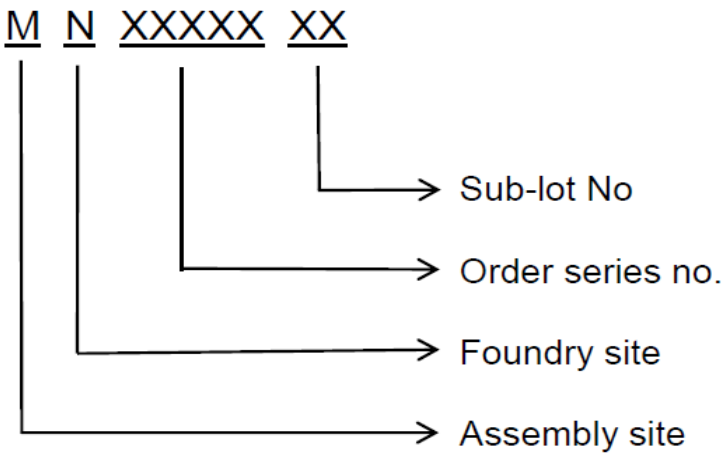
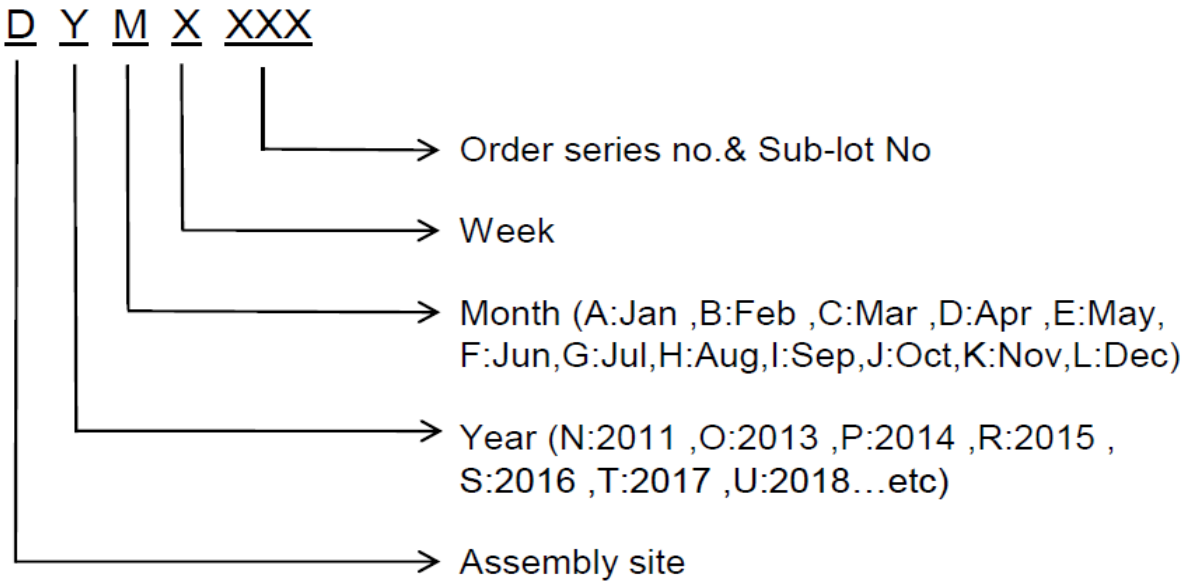
C. Lot No.&Date Code rule

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	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