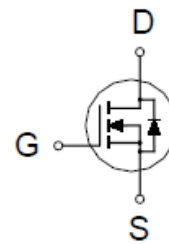
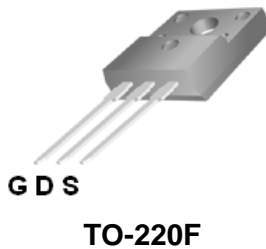


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PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	37mΩ @ $V_{GS} = 10V$	19A



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	100	V
Gate-Source Voltage		V_{GS}	±20	
Continuous Drain Current	$T_C = 25\text{ °C}$	I_D	19	A
	$T_C = 100\text{ °C}$		12	
Pulsed Drain Current ¹		I_{DM}	75	
Avalanche Current		I_{AS}	15.3	
Avalanche Energy ²		E_{AS}	117	mJ
Power Dissipation	$T_C = 25\text{ °C}$	P_D	31	W
	$T_C = 100\text{ °C}$		12.5	
Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		4	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	

¹Pulse width limited by maximum junction temperature.

²Starting $T_j = 25\text{ °C}$, $L = 1\text{mH}$, $V_{DD} = 50\text{V}$

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

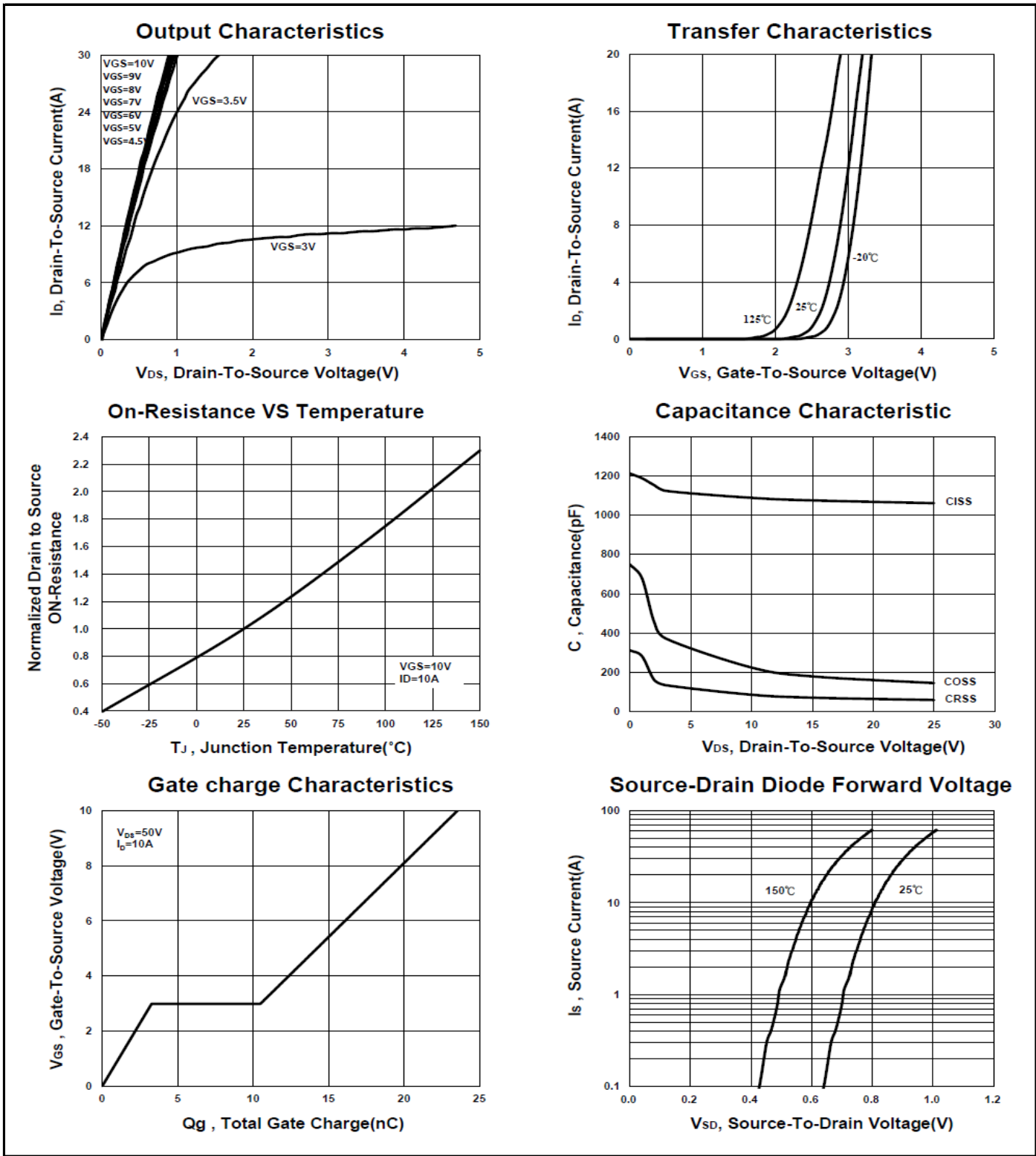
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	100			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1	1.8	3	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 80V, V _{GS} = 0V			1	μA
		V _{DS} = 80V, V _{GS} = 0V, T _J = 125 °C			10	
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 4.5V, I _D = 10A		30	48	mΩ
		V _{GS} = 10V, I _D = 10A		27	37	
Forward Transconductance ¹	g _{fs}	V _{DS} = 10V, I _D = 10A		35		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		1070		pF
Output Capacitance	C _{oss}			146		
Reverse Transfer Capacitance	C _{rss}			59		
Total Gate Charge ²	Q _g	V _{DS} = 50V, V _{GS} = 10V, I _D = 10A		24		nC
Gate-Source Charge ²	Q _{gs}			3.7		
Gate-Drain Charge ²	Q _{gd}			8.8		
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = 50V, I _D ≅ 10A, V _{GS} = 10V, R _{GS} = 6Ω		30		nS
Rise Time ²	t _r			21		
Turn-Off Delay Time ²	t _{d(off)}			45		
Fall Time ²	t _f			21		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current	I _S				19	A
Forward Voltage ¹	V _{SD}	I _F = 10A, V _{GS} = 0V			1.2	V
Reverse Recovery Time	t _{rr}	I _F = 10A, dI _F /dt = 100A/μs		39		nS
Reverse Recovery Charge	Q _{rr}				55	

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

²Independent of operating temperature.

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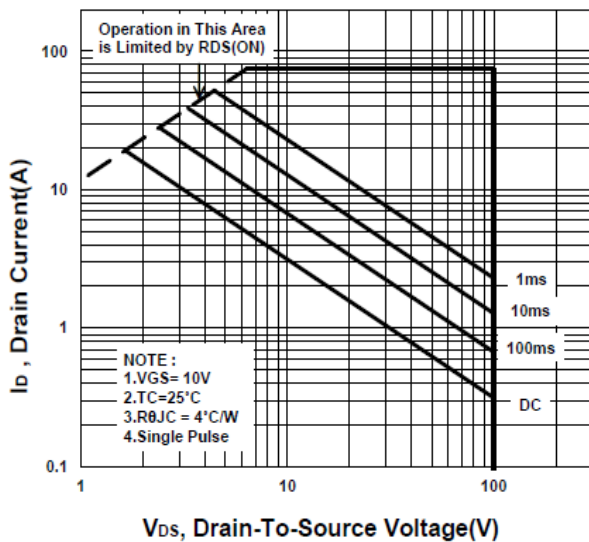
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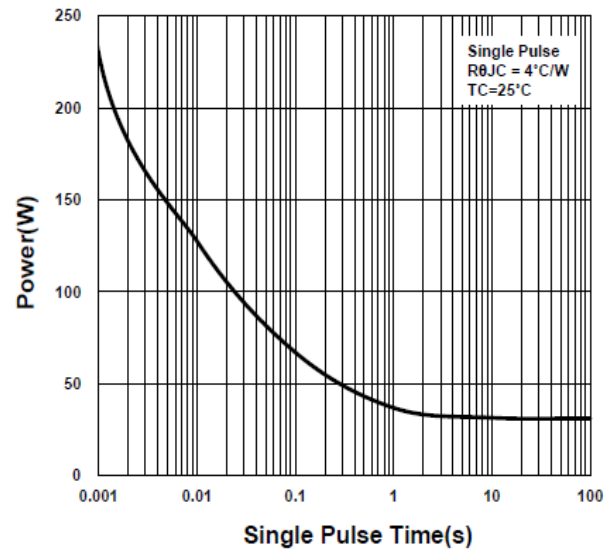
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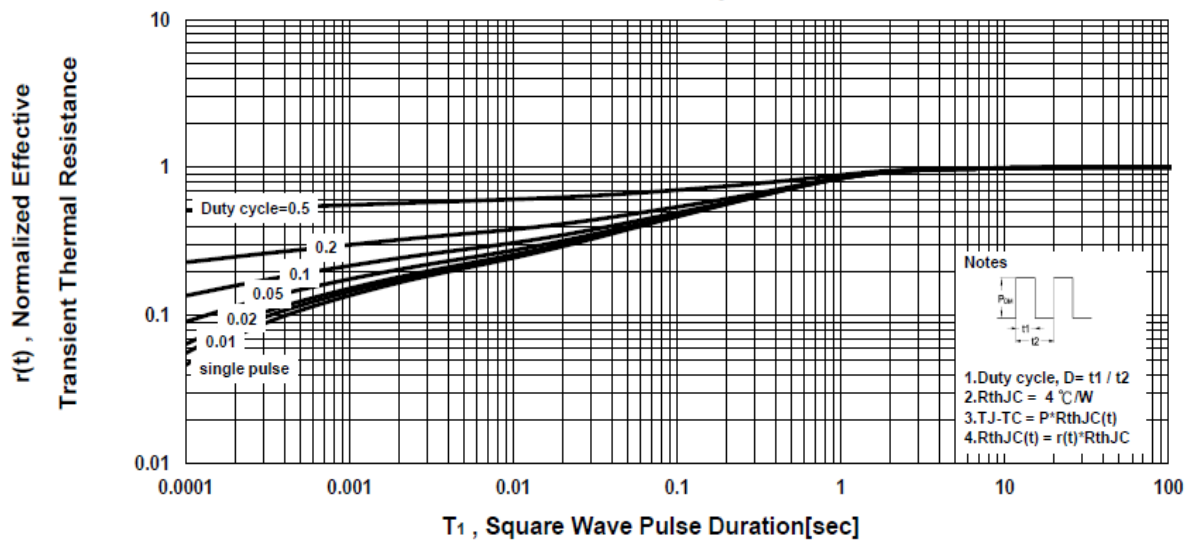
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



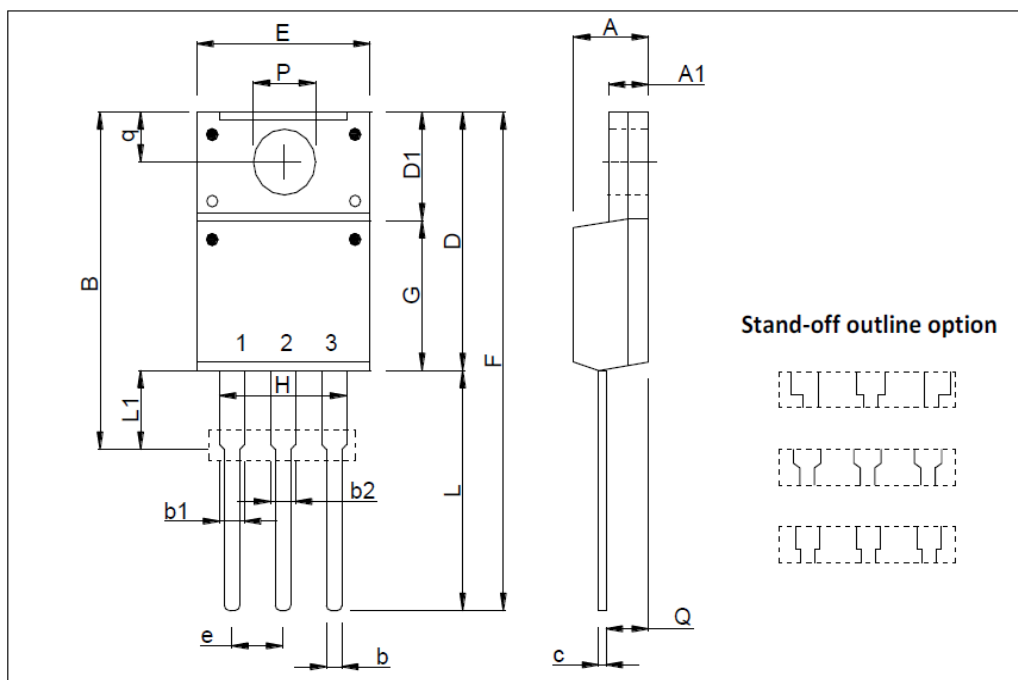
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Package Dimension

TO-220F (3-Lead) MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.4		4.93	e	2.34		2.74
A1	2.34		3.1	F	27.2		30.6
B	18.8		20	G	7.7		9.39
b	0.65		1	H	6.18		6.82
b1	0.93		1.6	L	12.7		14.2
b2	0.95		1.6	L1	2.88		3.7
c	0.4		1	P	2.98		3.7
D	13.5		16.4	Q	2.3		2.96
D1	6.48		6.95	q	3.1		3.8
E	9.8		10.4				

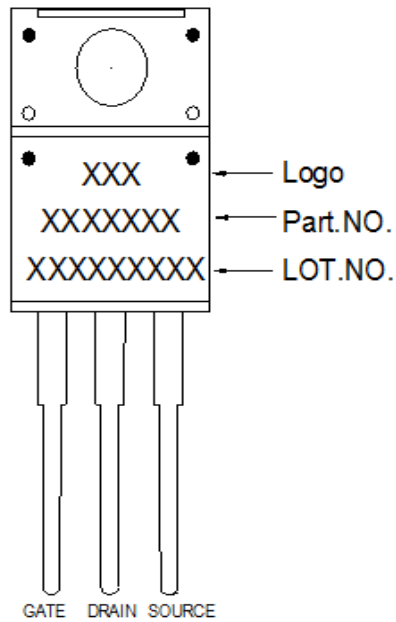


*因各家封装模具不同而外观略有所差异，不影响电性及Layout。

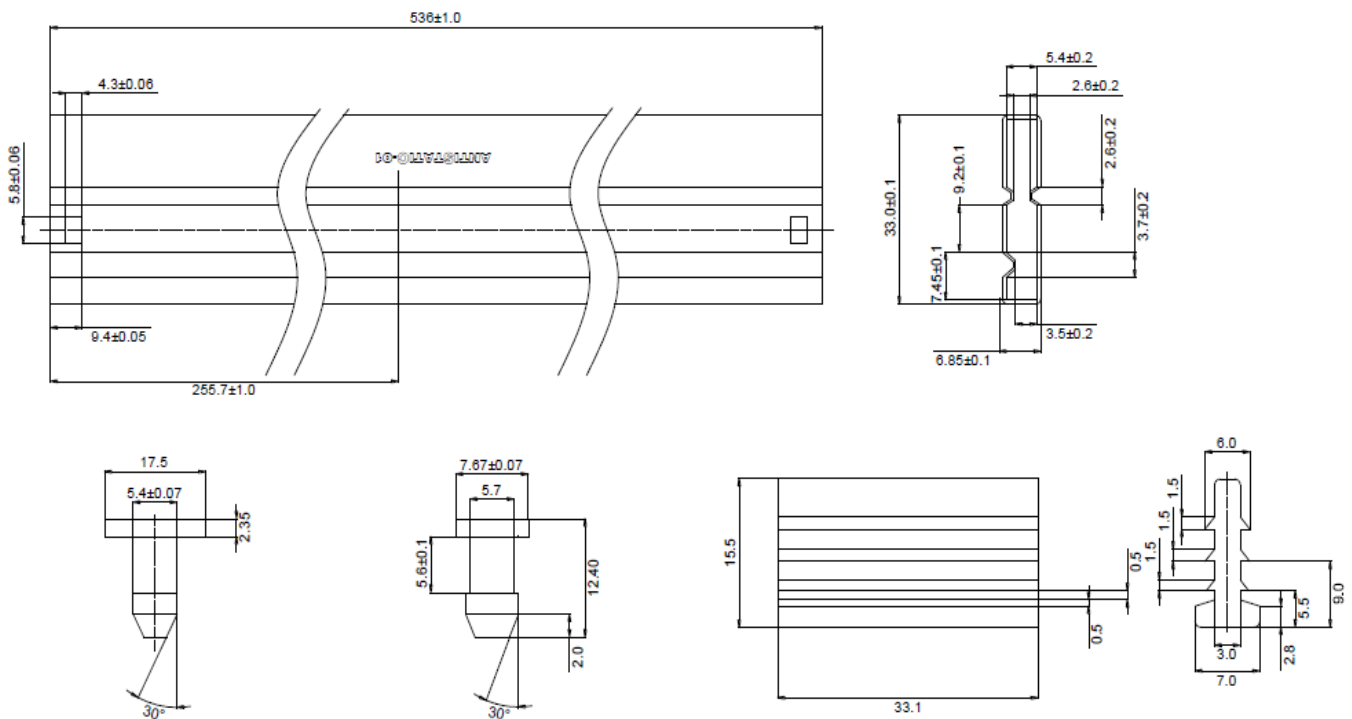
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A. Marking Information



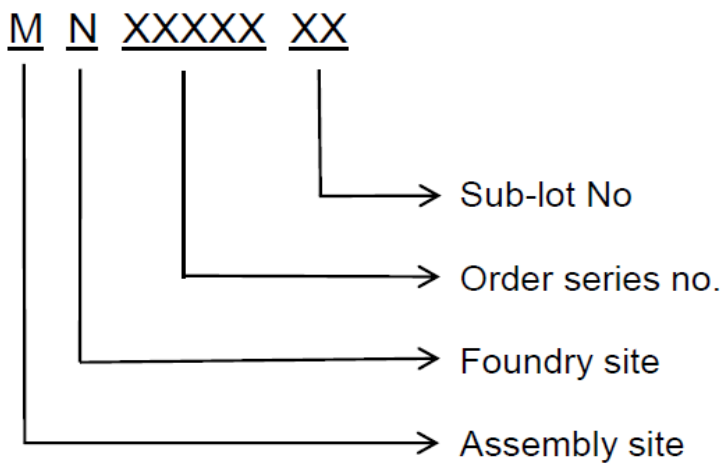
B. Tape & Reel Information: 50pcs/Tube (2000pcs/Box)



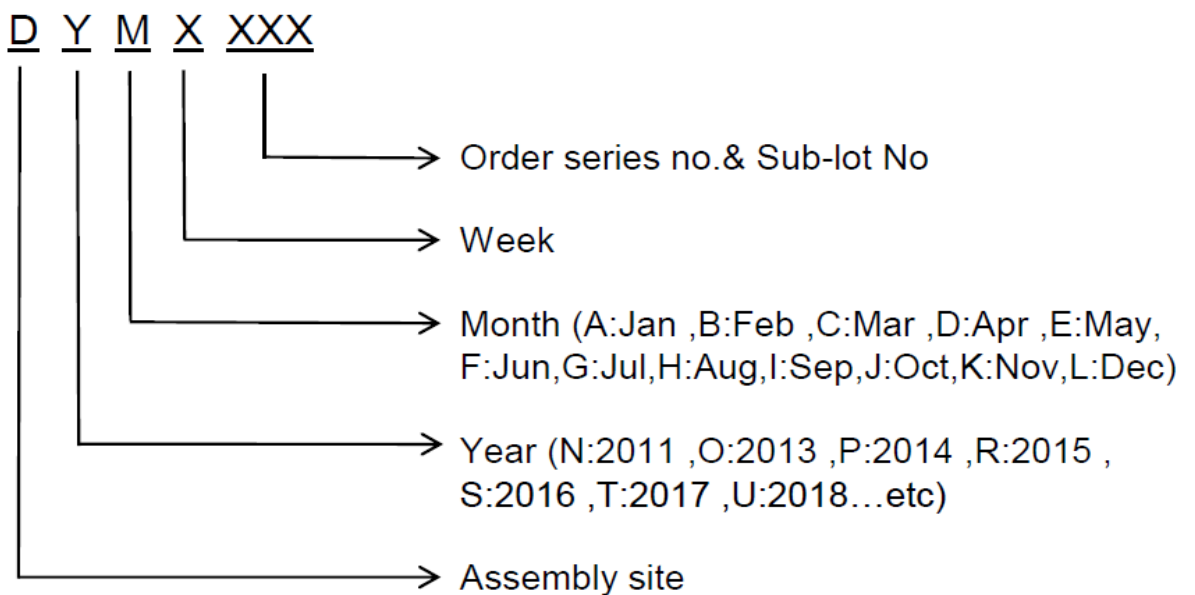
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C. Lot No.&Date Code rule

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