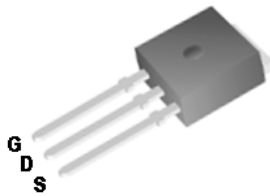


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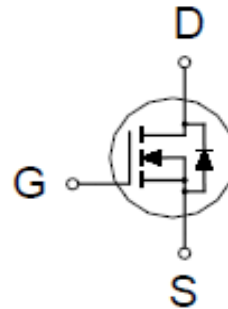
N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
700V	1.5Ω @ $V_{GS} = 10V$	7A



TO-251



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	700	V
Gate-Source Voltage		V_{GS}	±30	V
Continuous Drain Current ²	$T_C = 25\text{ °C}$	I_D	7	A
	$T_C = 100\text{ °C}$		4.4	
Pulsed Drain Current ^{1,2}		I_{DM}	20	
Avalanche Current ³		I_{AS}	2.2	
Avalanche Energy ³		E_{AS}	24	mJ
Power Dissipation	$T_C = 25\text{ °C}$	P_D	96	W
	$T_C = 100\text{ °C}$		38	
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	$R_{\theta JC}$		1.3	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	

¹Pulse width limited by maximum junction temperature.

²Limited only by maximum temperature allowed

³ $V_{DD} = 50V$, $L = 10mH$, starting $T_j = 25\text{ °C}$

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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	700			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	2	2.9	4	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±30V			±100	nA
Gate Voltage Drain Current	I _{DSS}	V _{DS} = 700V, V _{GS} = 0V, T _C = 25 °C			1	μA
		V _{DS} = 560V, V _{GS} = 0V, T _C = 100 °C			10	
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 10V, I _D = 3.5A		1.2	1.5	mΩ
Forward Transconductance ¹	g _{fs}	V _{DS} = 10V, I _D = 3.5A		10		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		1223		pF
Output Capacitance	C _{oss}			106		
Reverse Transfer Capacitance	C _{rss}			9		
Total Gate Charge ²	Q _g	V _{DD} = 560V, I _D = 7A, V _{GS} = 10V		28		nC
Gate-Source Charge ²	Q _{gs}			5		
Gate-Drain Charge ²	Q _{gd}			10		
Turn-On Delay Time ²	t _{d(on)}	V _{GS} = 10V, V _{DD} = 350V, I _D = 7A, R _G = 25Ω		35		nS
Rise Time ²	t _r			75		
Turn-Off Delay Time ²	t _{d(off)}			80		
Fall Time ²	t _f			57		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current ³	I _S				7	A
Forward Voltage ¹	V _{SD}	I _F = 7A, V _{GS} = 0V			1	V
Reverse Recovery Time	t _{rr}	I _F = 7A, dI _F /dt = 100A / μS		400		nS
Reverse Recovery Charge	Q _{rr}				4	

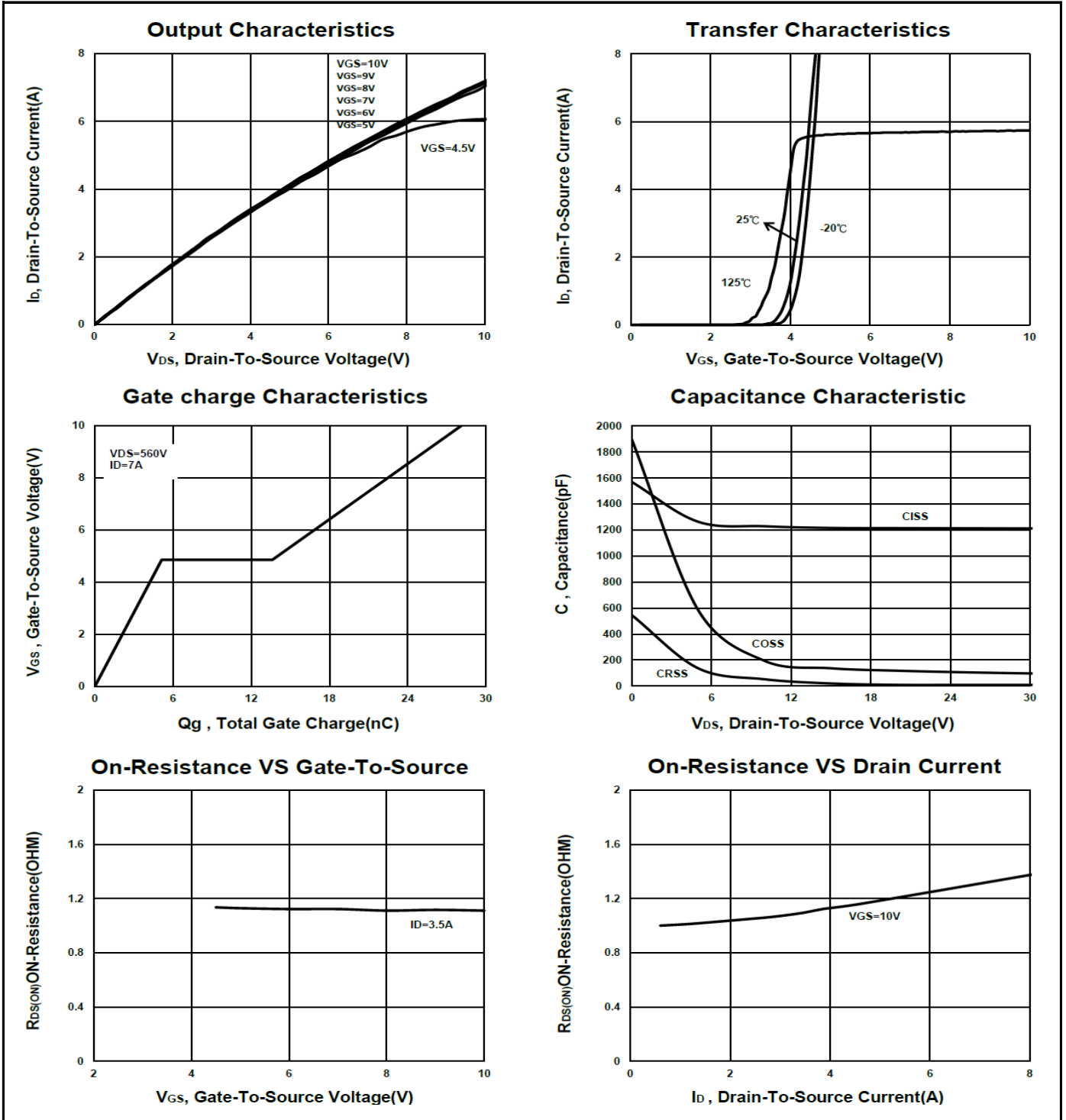
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

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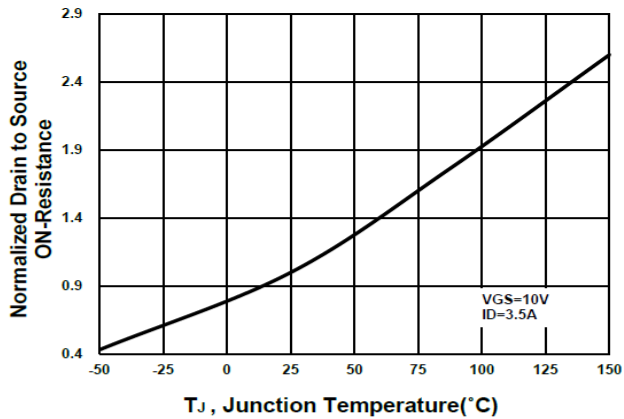
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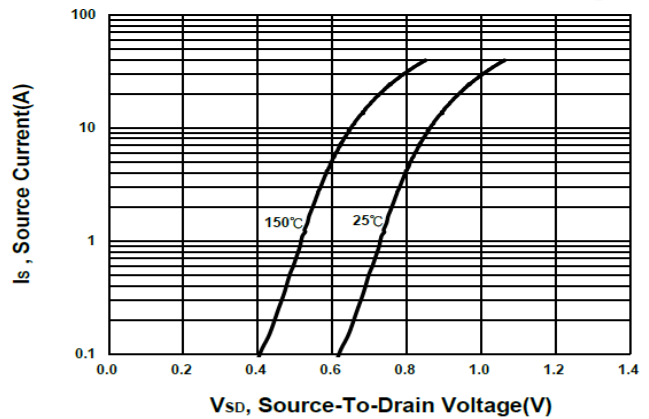
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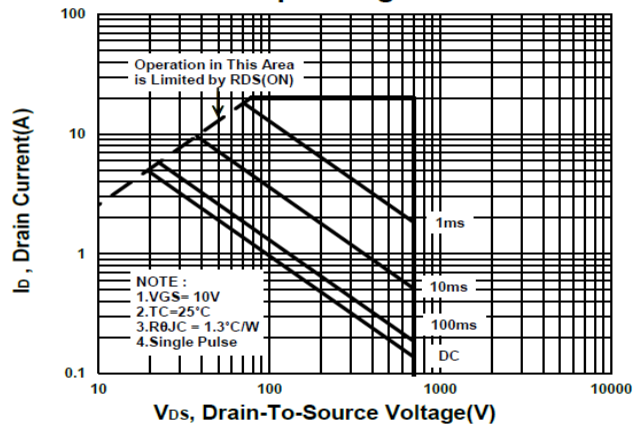
On-Resistance VS Temperature



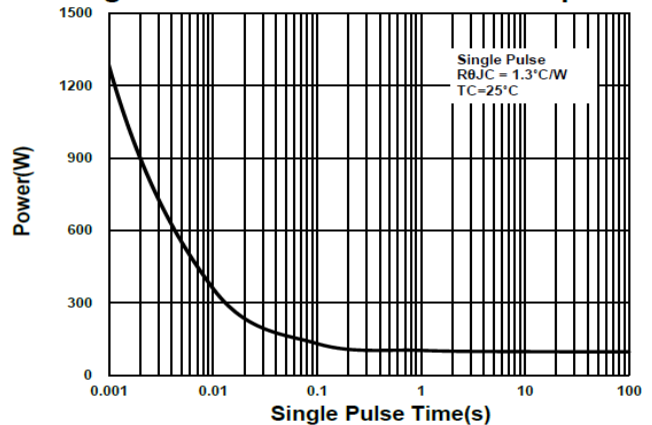
Source-Drain Diode Forward Voltage



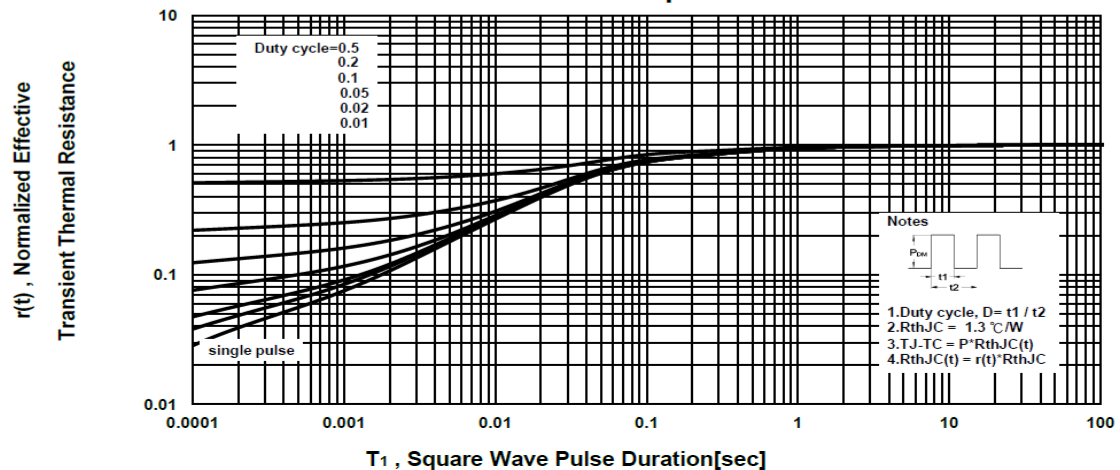
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



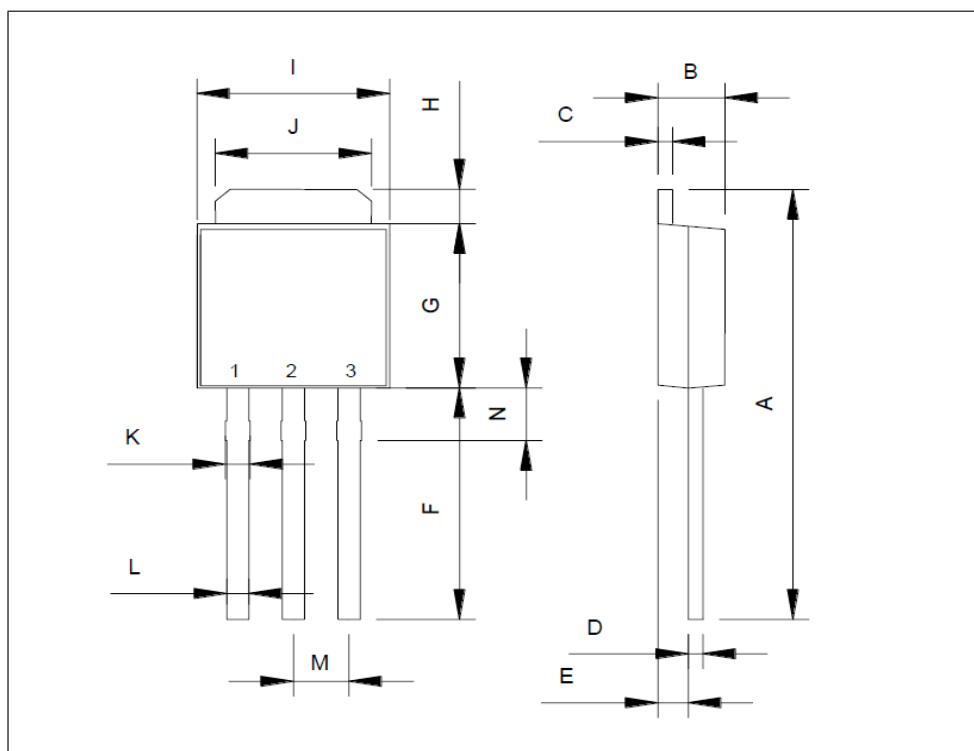
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Package Dimension

TO-251 MECHANICAL DATA

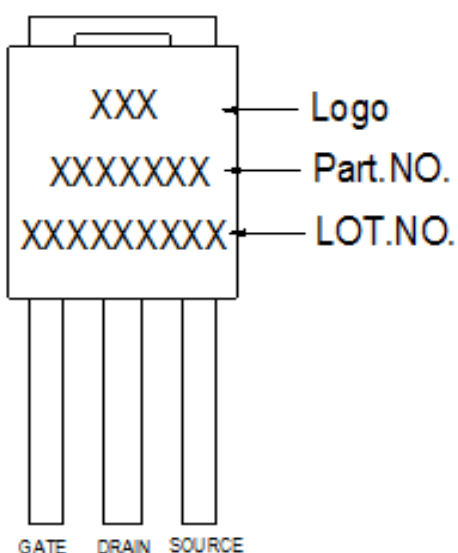
Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	14	15	17.14	H	0.89		1.7
B	2.1	2.3	2.5	I	6.3		6.8
C	0.4	0.5	0.6	J	4.8		5.5
D	0.35	0.5	0.65	K	0.5	0.84	1.14
E	0.9	1.1	1.5	L	0.4	0.76	0.912
F	7		9.65	M		2.3	
G	5.3		6.22	N	1.4	2.16	2.23



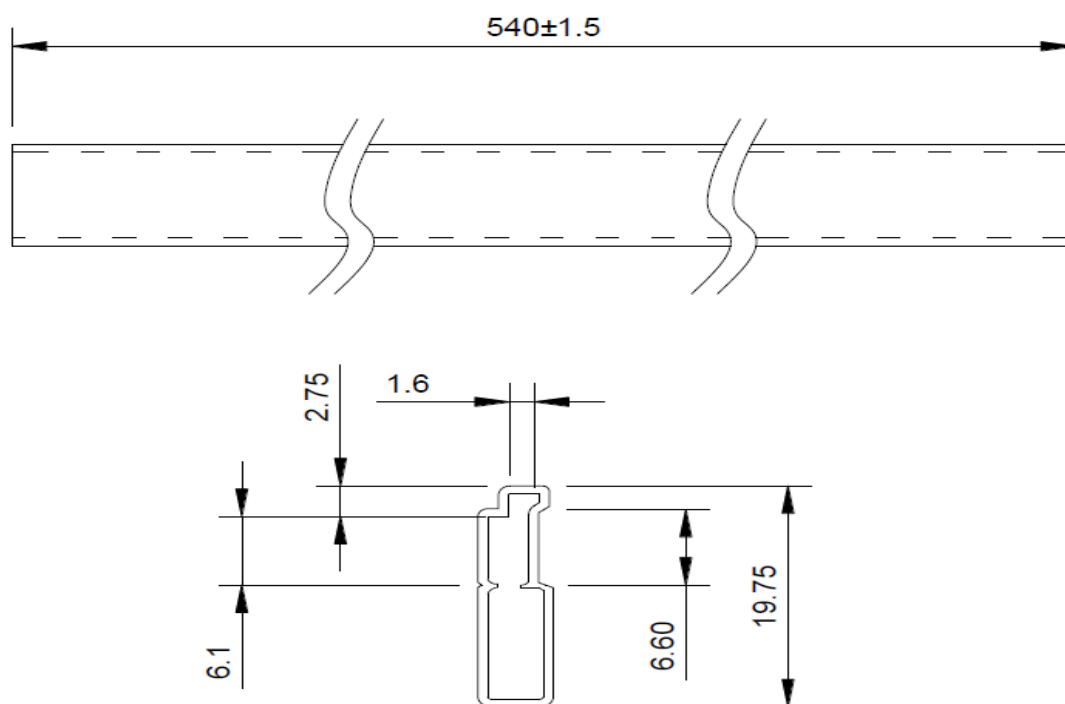
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A. Marking Information



B. Tape&Reel Information:75pcs/Tube

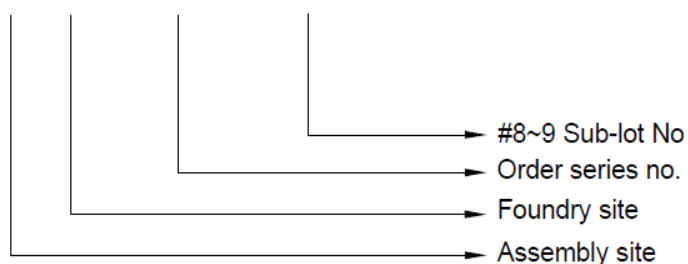


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C. Lot.No. & Date Code rule

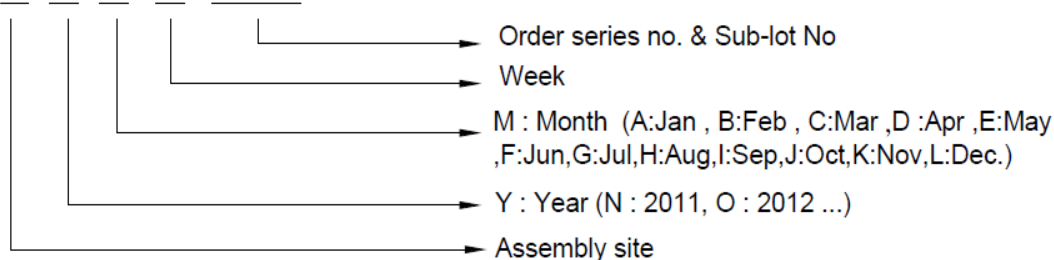
1.LOT.NO.

M N 15M21 03



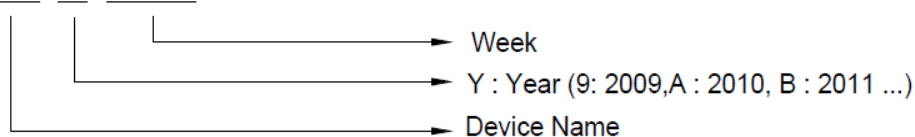
2.Date Code

D Y M X XXX



3.Date Code (for Small package)

XX Y WW





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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