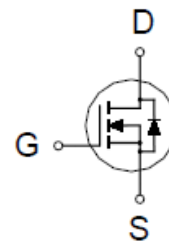
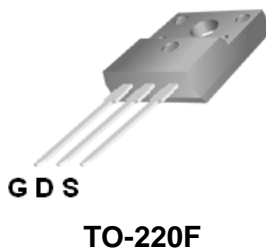


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N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	85mΩ @ $V_{GS} = 10V$	11A



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	11	A
	$T_C = 100\text{ °C}$		7	
Pulsed Drain Current ¹		I_{DM}	35	
Avalanche Current		I_{AS}	14	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	10	mJ
Power Dissipation	$T_C = 25\text{ °C}$	P_D	24	W
	$T_C = 100\text{ °C}$		9.6	
Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		5.2	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	

¹Pulse width limited by maximum junction temperature.

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

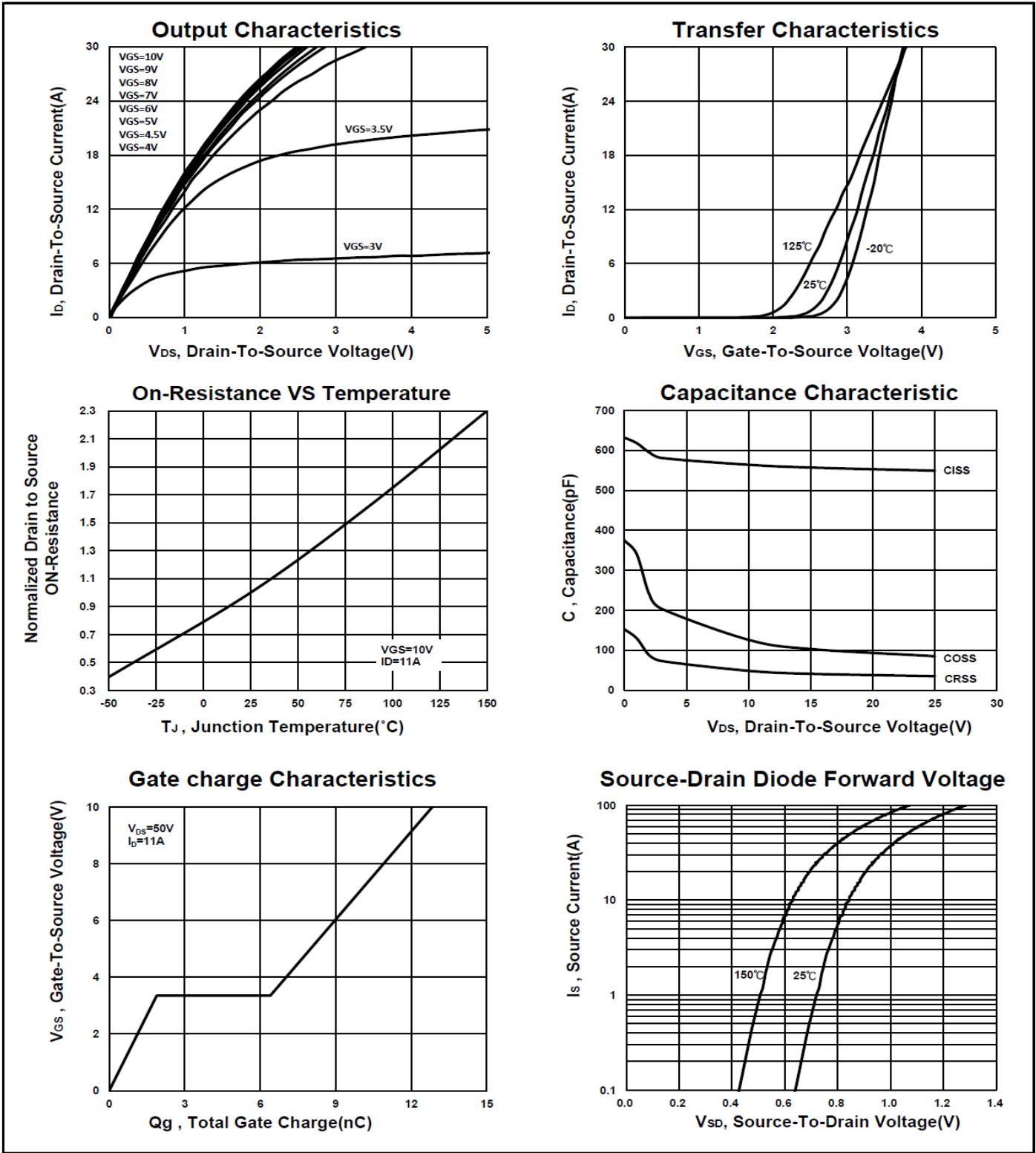
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	100			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1.3	1.8	2.3	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	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		61	95	mΩ
		V _{GS} = 10V, I _D = 11A		59	85	
Forward Transconductance ¹	g _{fs}	V _{DS} = 10V, I _D = 11A		28		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		550		pF
Output Capacitance	C _{oss}			86		
Reverse Transfer Capacitance	C _{rss}			36		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		1.1		Ω
Total Gate Charge ²	Q _g	V _{DS} = 50V, V _{GS} = 10V, I _D = 11A		12.9		nC
Gate-Source Charge ²	Q _{gs}			2		
Gate-Drain Charge ²	Q _{gd}			4.6		
Turn-On Delay Time ²	t _{d(on)}	V _{DS} = 40V, I _D ≅ 11A, V _{GS} = 10V, R _{GEN} = 6Ω		11		nS
Rise Time ²	t _r			48		
Turn-Off Delay Time ²	t _{d(off)}			80		
Fall Time ²	t _f			73		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current	I _S				11	A
Forward Voltage ¹	V _{SD}	I _F = 11A, V _{GS} = 0V			1.1	V
Reverse Recovery Time	t _{rr}	I _F = 11A, di _F /dt = 100A/μs		33		nS
Reverse Recovery Charge	Q _{rr}				47	

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

²Independent of operating temperature.

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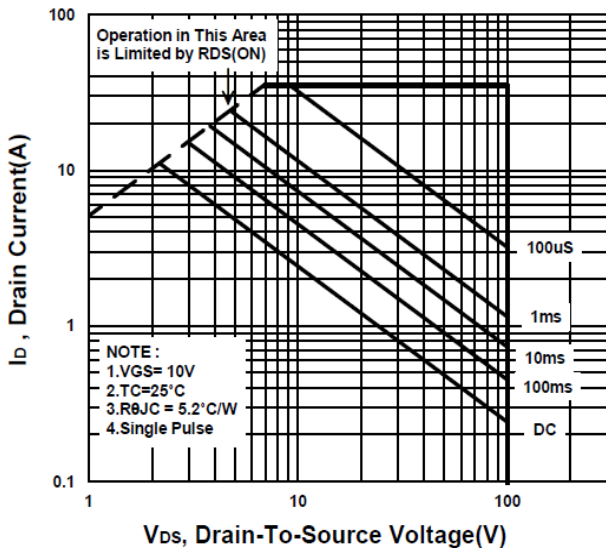
N-Channel Enhancement Mode MOSFET



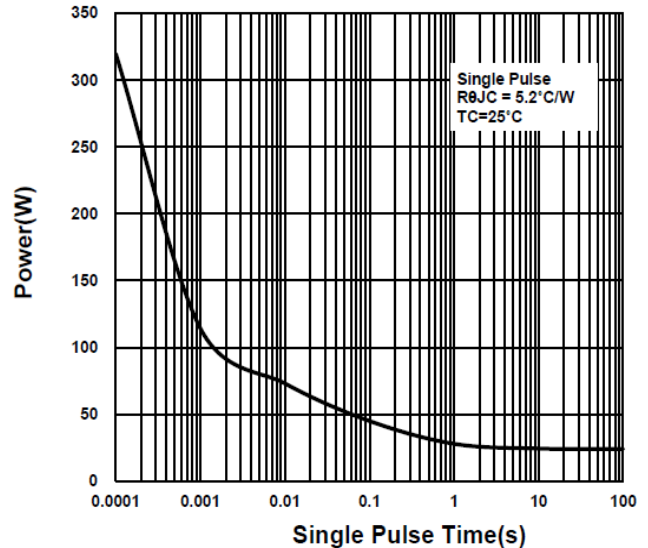
P8010BTF

N-Channel Enhancement Mode MOSFET

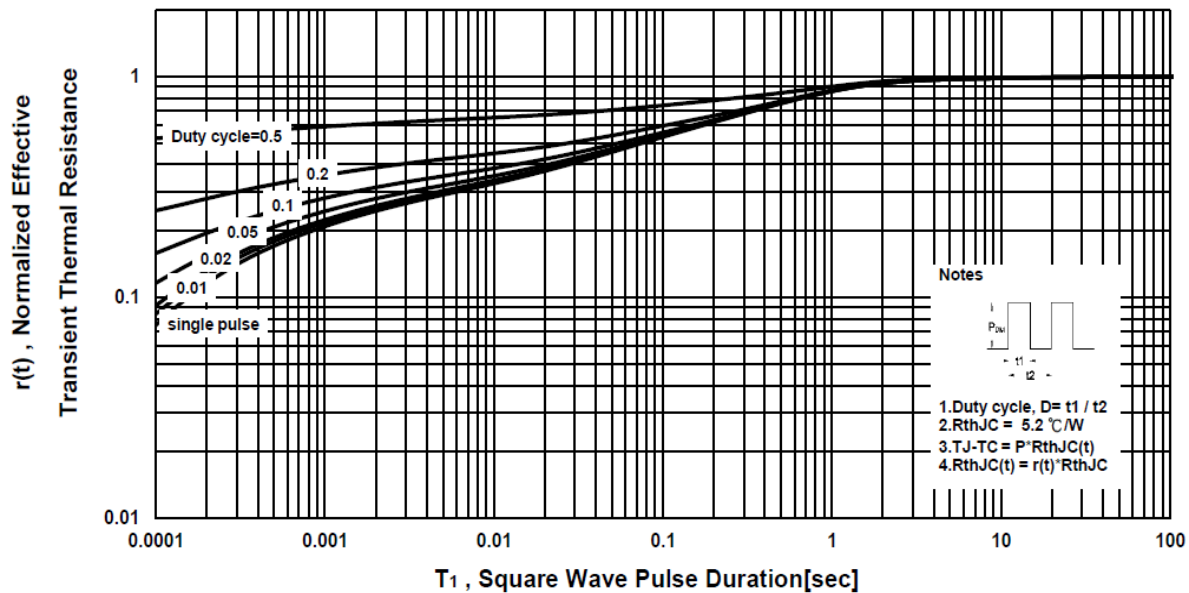
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



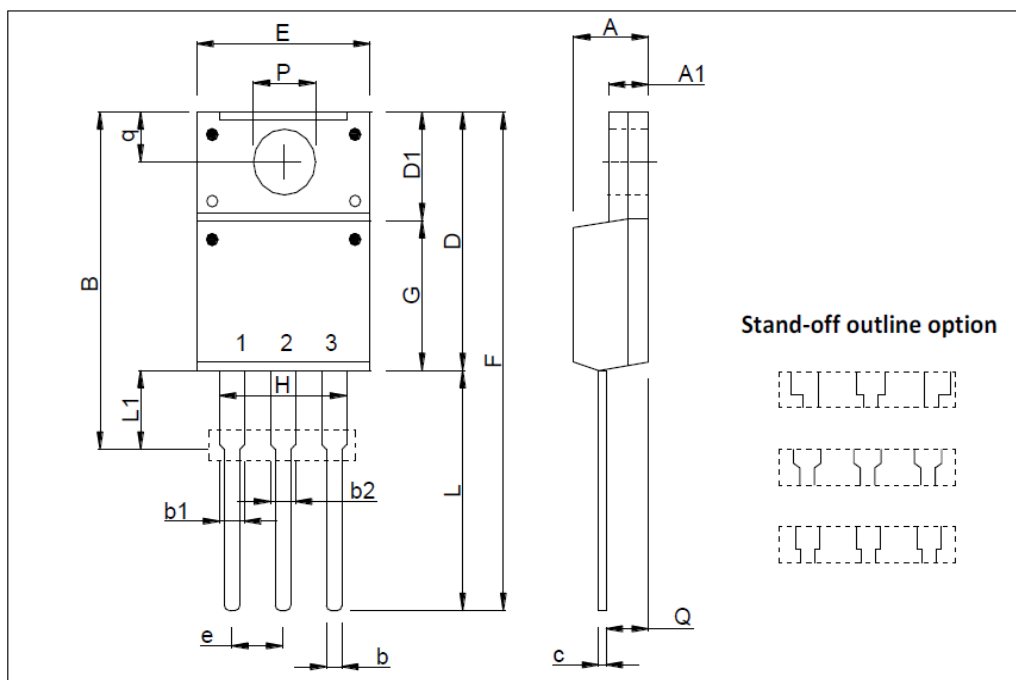
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Package Dimension

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				

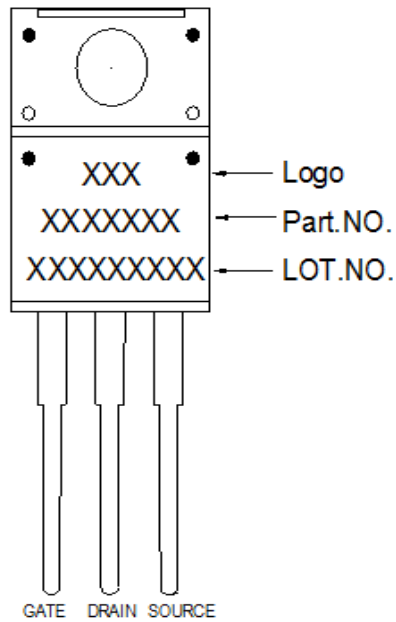


*因各家封装模具不同而外观略有所差异，不影响电性及Layout。

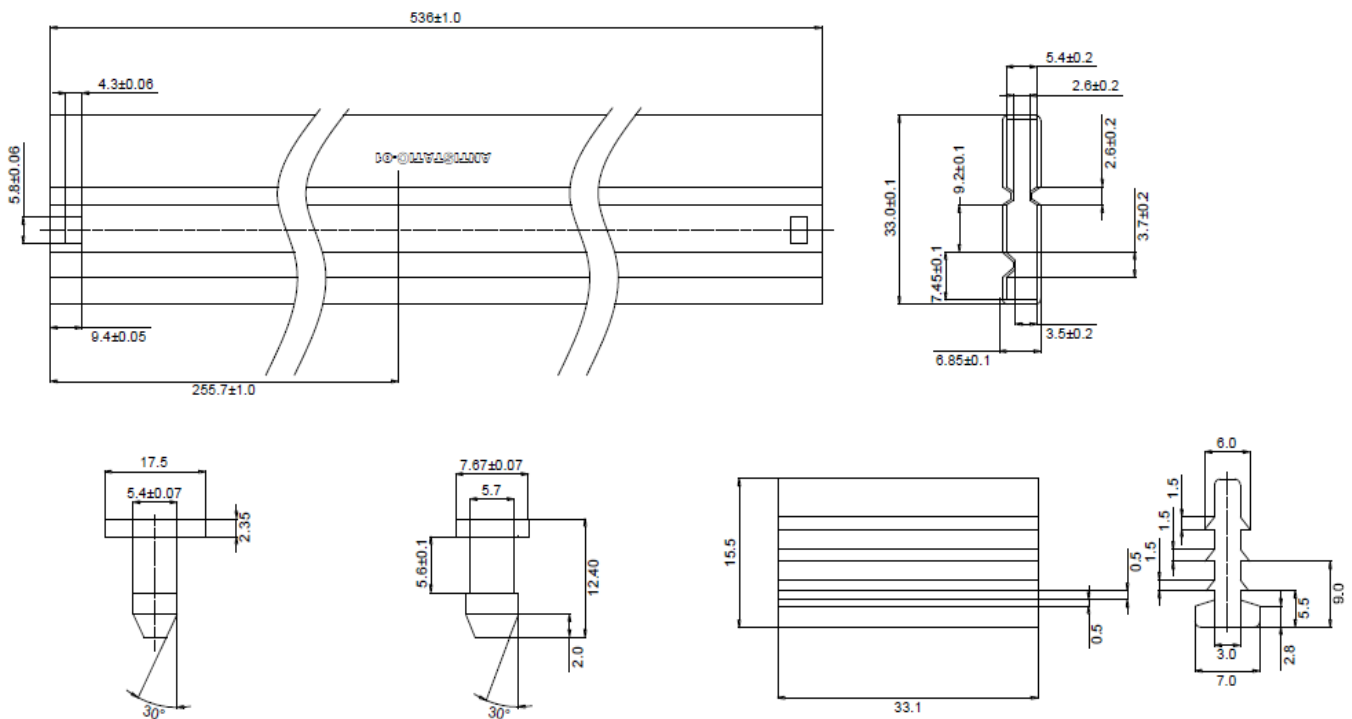
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A. Marking Information



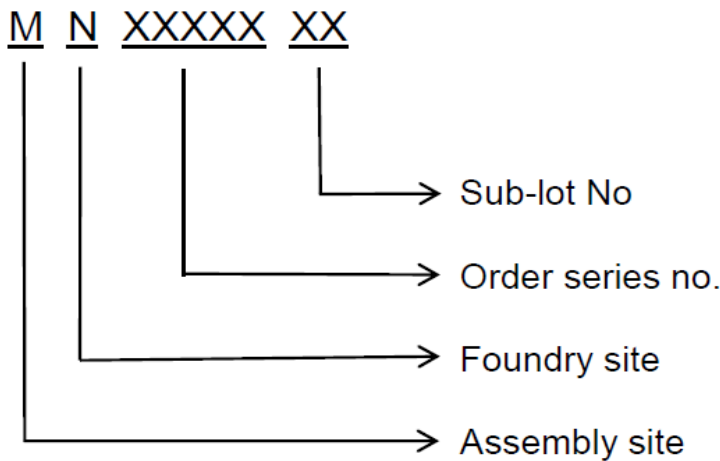
B. Tape & Reel Information: 50pcs/Tube (2000pcs/Box)



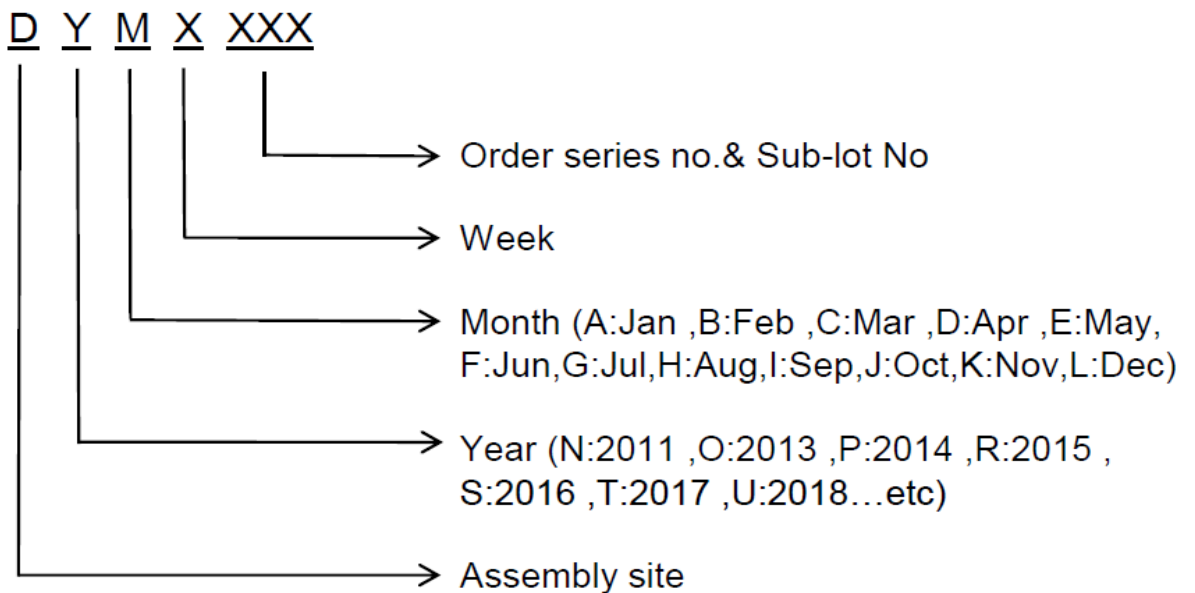
P8010BTF
N-Channel Enhancement Mode MOSFET

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