UNIKC Semiconductor

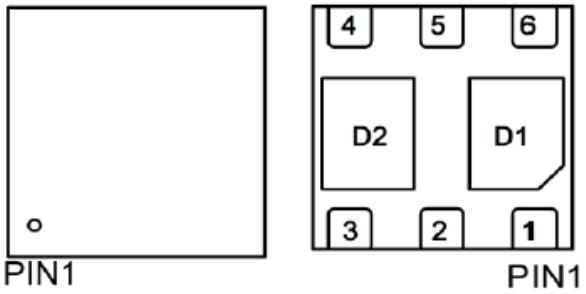
RoHS Compliant

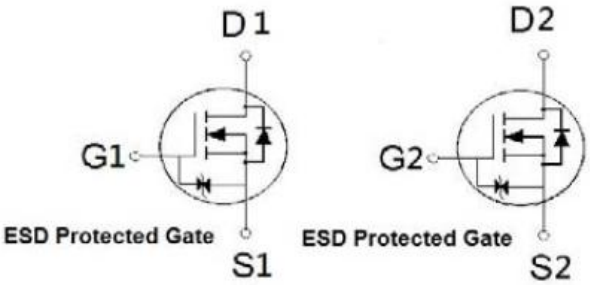
PB5G8JW

Dual N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
20V	35mΩ @V_{GS} = 4.5V	5A





PDFN 2X2S

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±8	V
Continuous Drain Current	T_A = 25 °C	I_D	5	A
	T_A= 70 °C		3.9	
Pulsed Drain Current[1]		I_{DM}	20	
Power Dissipation	T_A = 25 °C	P_D	1.4	W
	T_A = 70 °C		0.9	
Operating Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient[2]	$R_{\theta JA}$		86	°C / W

[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.

UNIKC Semiconductor

RoHS Compliant

PB5G8JW

Dual 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	20			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	0.5	0.7	1.0	
Gate-Body Leakage	I_{GSS}	V_{DS} = 0V, V_{GS} = ±8V			±10	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 16V, V_{GS} = 0V			1	μA
		V_{DS} = 10V, V_{GS} = 0V, T_J = 55 °C			10	
Drain-Source On-State Resistance[1]	$R_{DS(ON)}$	V_{GS} = 4.5V, I_D = 5A		22	35	mΩ
		V_{GS} = 2.5V, I_D = 4.5A		27	38	
		V_{GS} = 1.8V , I_D = 2A		35	55	
Forward Transconductance[1]	g_{fs}	V_{DS} = 5V, I_D = 5A		30		S
DYNAMIC						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 10V, f = 1MHz		506		pF
Output Capacitance	C_{oss}			82		
Reverse Transfer Capacitance	C_{rss}			66		
Gate Resistance	R_g	V_{GS} = 0V, V_{DS} = 0V, f = 1MHz		1.8		Ω
Total Gate Charge[2]	Q_g(V_{GS}=4.5V)	V_{DS} = 10V , I_D = 5A		7		nC
	Q_g(V_{GS}=2.5V)			4.3		
Gate-Source Charge[2]	Q_{gs}			0.6		
Gate-Drain Charge[2]	Q_{gd}			2.3		
Turn-On Delay Time[2]	$t_{d(on)}$	V_{DD}= 10V, I_D ≅ 5A, V_{GEN} = 4.5V, R_G= 6Ω		12		nS
Rise Time[2]	t_r			35		
Turn-Off Delay Time[2]	$t_{d(off)}$			24		
Fall Time[2]	t_f			16		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current	I_S				1.4	A
Forward Voltage[1]	V_{SD}	I_F = 5A, V_{GS} = 0V			1	V
Reverse Recovery Time	t_{rr}	I_F = 5A, dI_F/dt = 100A / μS		8.8		nS
Reverse Recovery Charge	Q_{rr}			1.4		nC

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

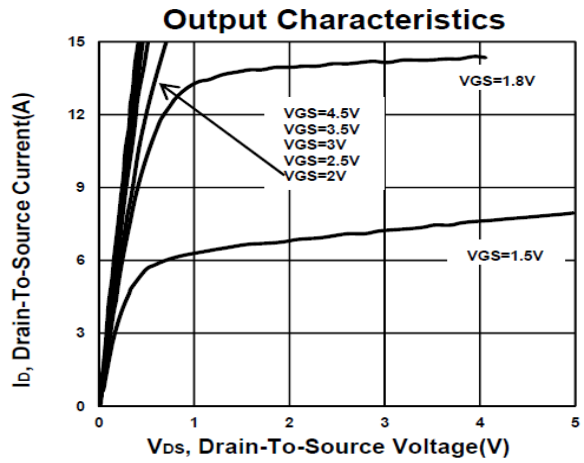
[2]Independent of operating temperature.

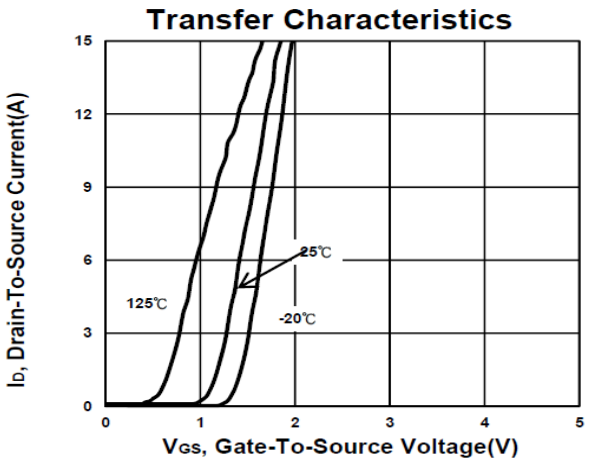
UNIKC Semiconductor

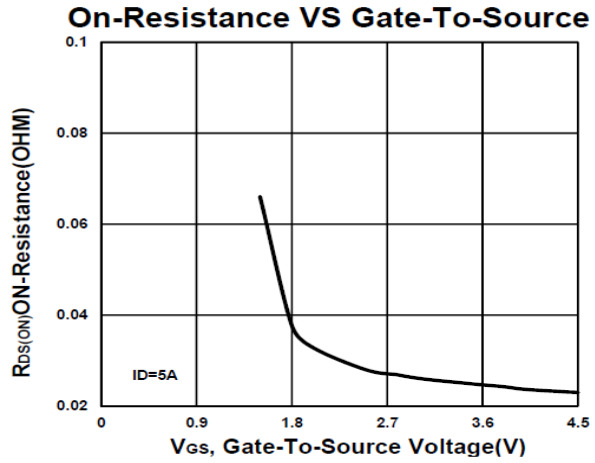
RoHS Compliant

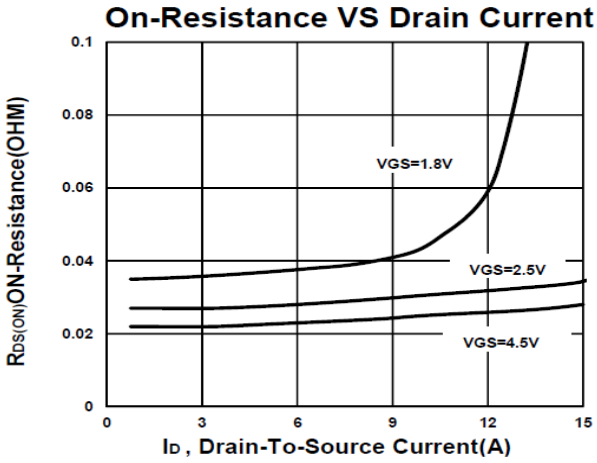
PB5G8JW

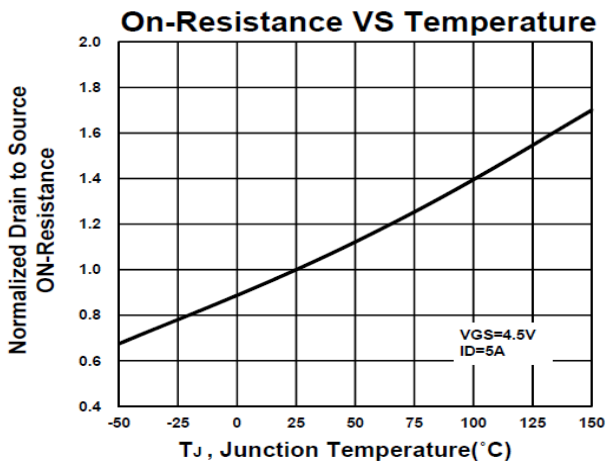
Dual N-Channel Enhancement Mode MOSFET

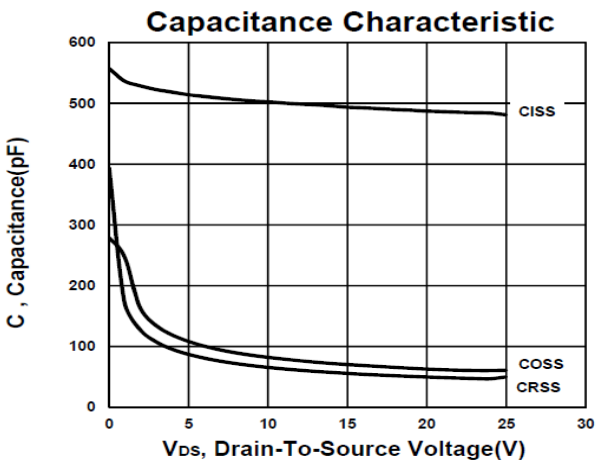








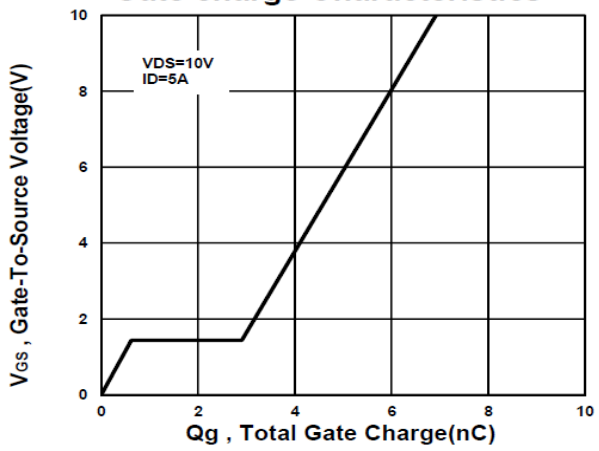




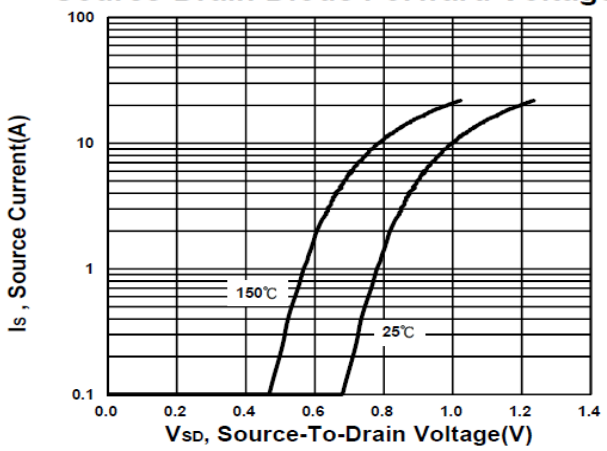
PB5G8JW

Dual N-Channel Enhancement Mode MOSFET

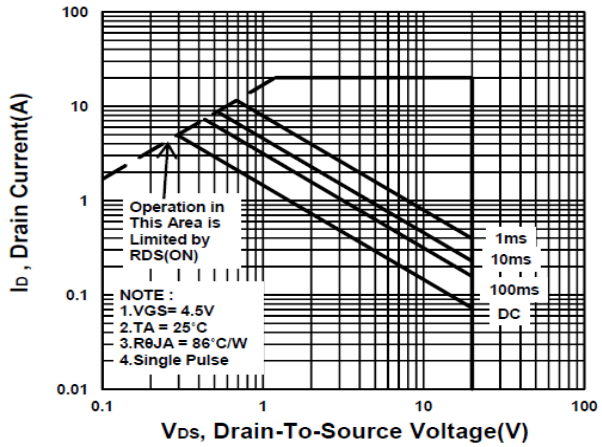
Gate charge Characteristics



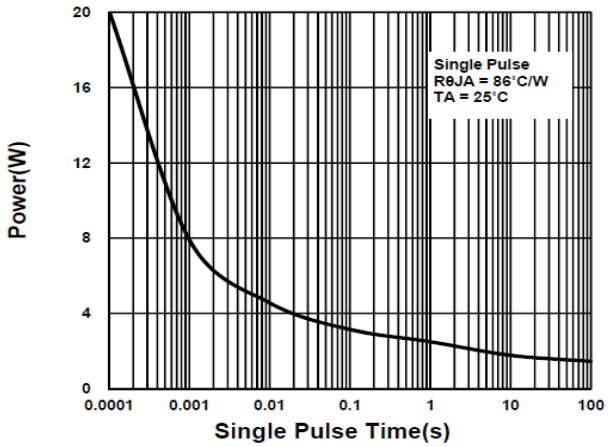
Source-Drain Diode Forward Voltage



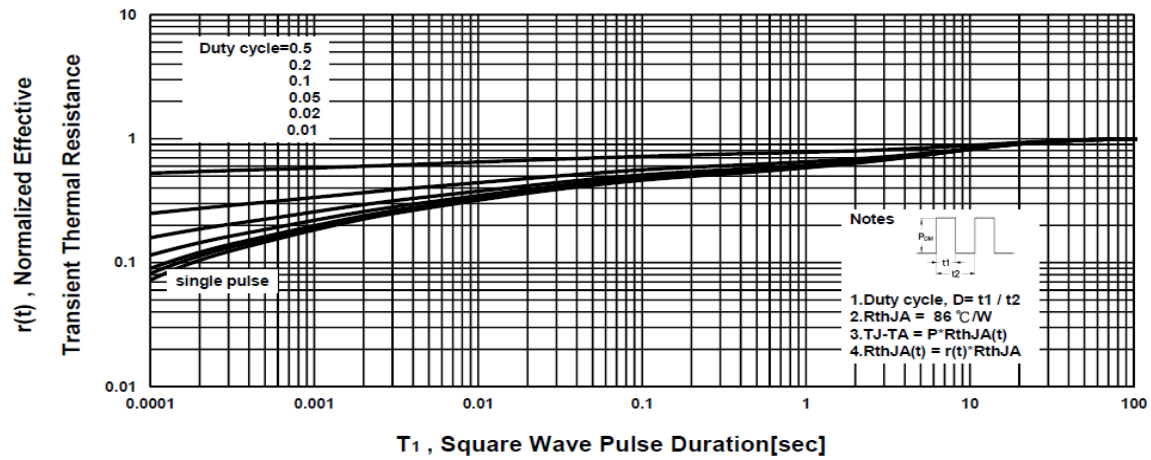
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



UNIKC Semiconductor

RoHS Compliant

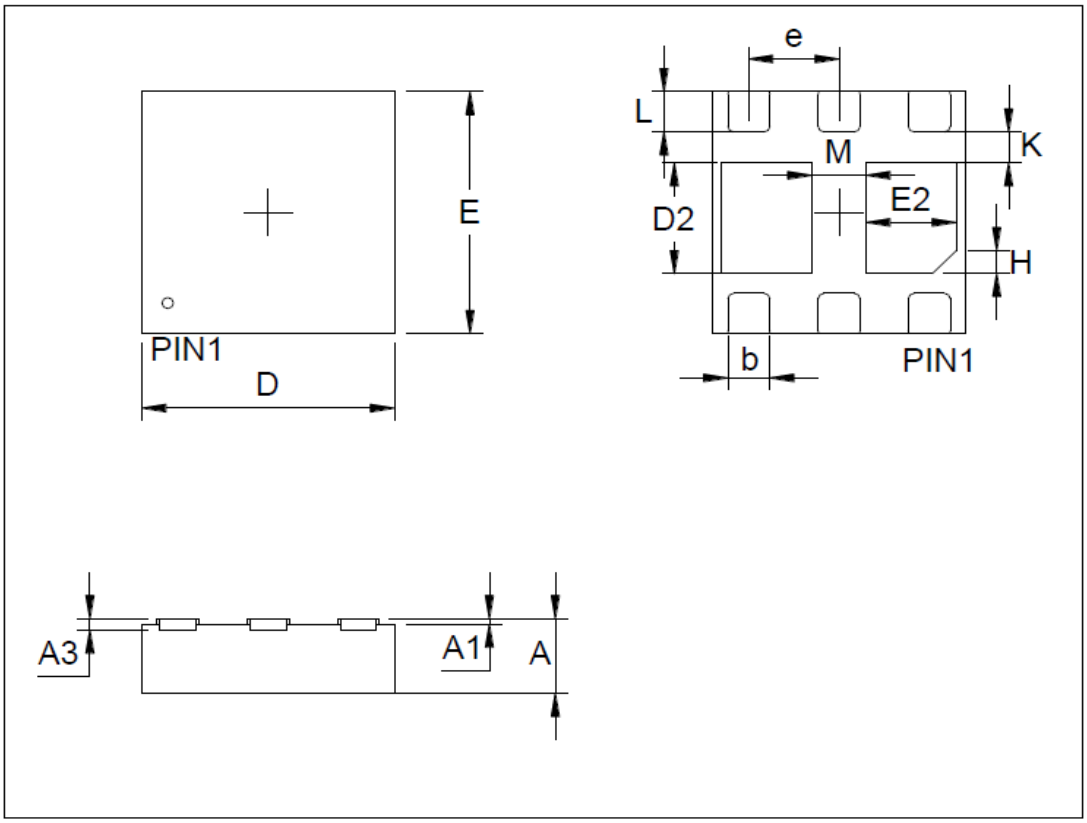
PB5G8JW

Dual N-Channel Enhancement Mode MOSFET

Package Dimension

PDFN 2x2S (Dual) MECHANICAL DATA

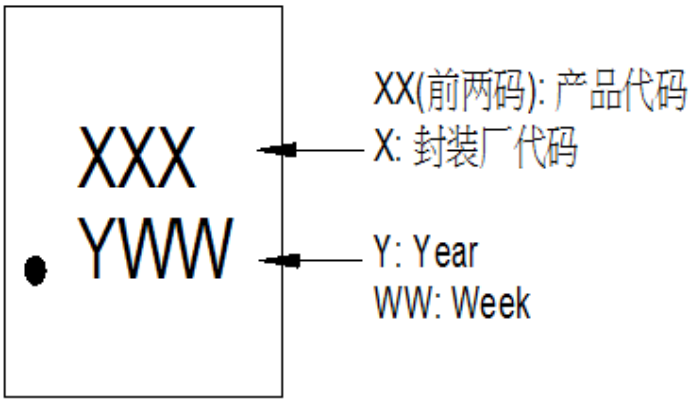
Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	0.50	0.55	0.65	e	0.55	0.65	0.75
A1	0.00	0.02	0.05	H	0.20REF		
A3	0.10REF			K	0.17	0.27	0.37
b	0.25	0.30	0.35	L	0.25	0.30	0.35
D	1.90	2.00	2.10	M	0.25	0.35	0.45
E	1.90	2.00	2.10				
D2	0.76	0.86	0.96				
E2	0.55	0.65	0.75				



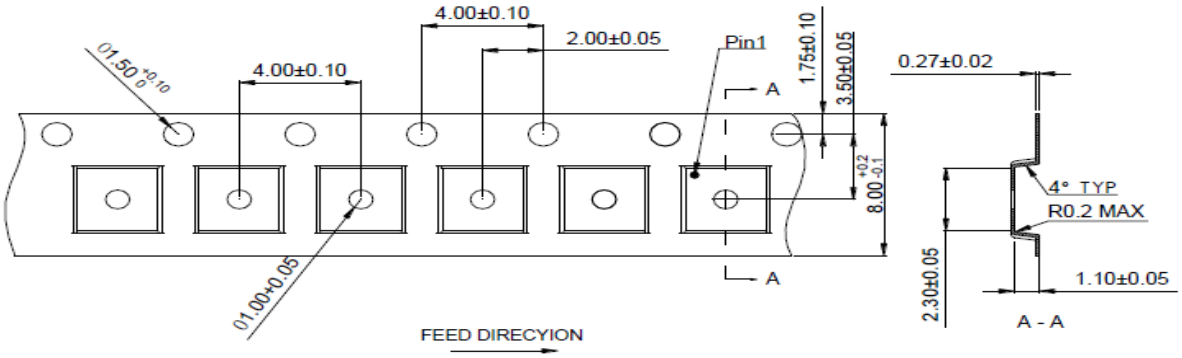
PB5G8JW

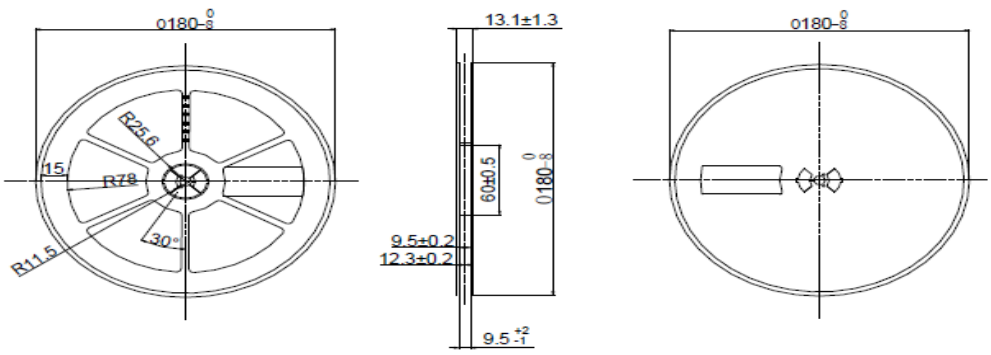
Dual N-Channel Enhancement Mode MOSFET

A. Marking Information(此产品代码为：B9)



B. Tape&Reel Information:3000pcs/Reel





UNIKC Semiconductor

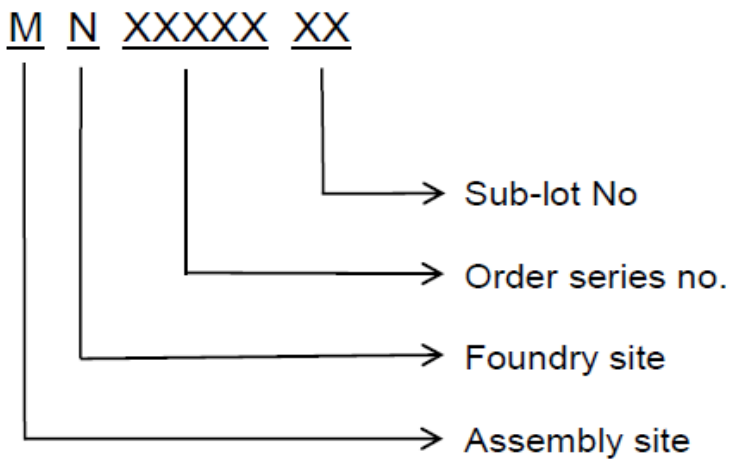
RoHS Compliant

PB5G8JW

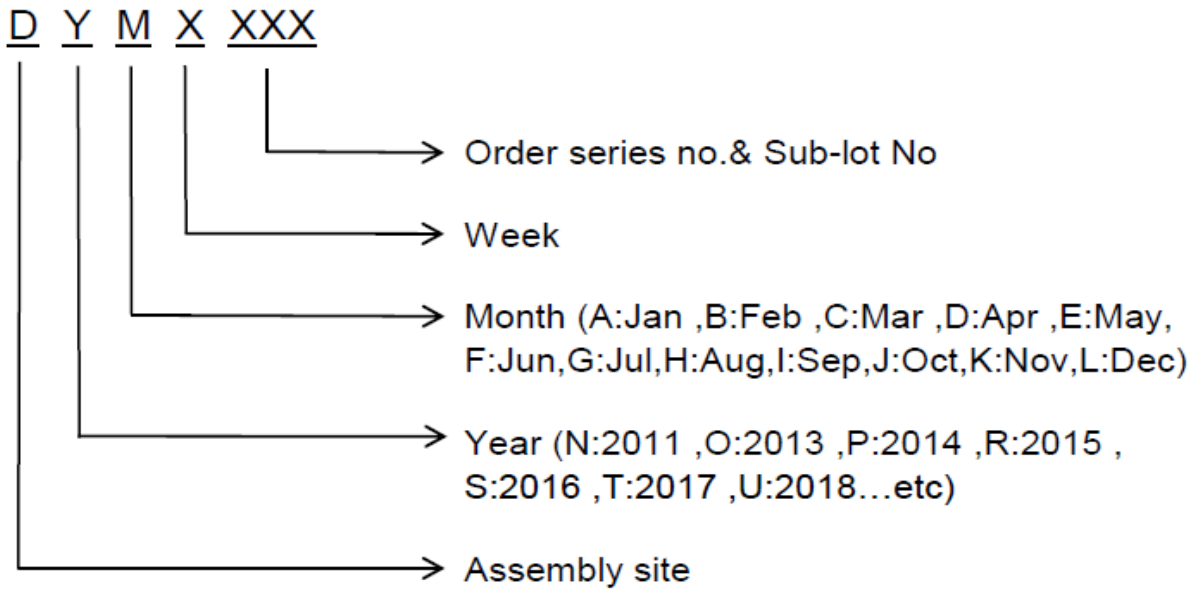
Dual N-Channel Enhancement Mode MOSFET

C. Lot No.&Date Code rule

1.Lot No.



2.Date Code



PB5G8JW

Dual N-Channel Enhancement Mode MOSFET

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