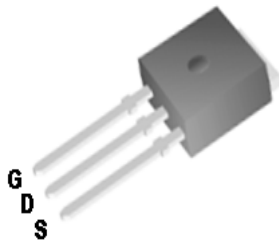


P0660EI

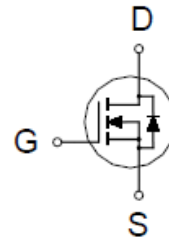
N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
600V	$1.35\Omega @ V_{GS} = 10V$	6A



TO-251



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	600	V
Gate-Source Voltage		V_{GS}	± 30	
Continuous Drain Current ²	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	6	A
	$T_C = 100\text{ }^{\circ}\text{C}$		3.8	
Pulsed Drain Current ^{1,2}		I_{DM}	20	
Avalanche Current ³		I_{AS}	3.5	
Avalanche Energy ³		E_{AS}	61.2	mJ
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	83	W
	$T_C = 100\text{ }^{\circ}\text{C}$		33	
Operating Junction & Storage Temperature Range		T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		1.5	$^{\circ}\text{C} / \text{W}$
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 $T_J = 25\text{ }^{\circ}\text{C}$

P0660EI

N-Channel Enhancement Mode MOSFET

ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	600			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	3.1	4	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 30V$			± 100	nA
Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 600V, V_{GS} = 0V, T_C = 25^\circ C$			1	μA
		$V_{DS} = 480V, V_{GS} = 0V, T_C = 100^\circ$			10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 3A$		1	1.35	Ω
Forward Transconductance ¹	g_{fs}	$V_{DS} = 15V, I_D = 3A$		10		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		937		pF
Output Capacitance	C_{oss}			101		
Reverse Transfer Capacitance	C_{rss}			15		
Total Gate Charge ²	Q_g	$V_{DD} = 480V, I_D = 6A, V_{GS} = 10V$		28		nC
Gate-Source Charge ²	Q_{gs}			4.5		
Gate-Drain Charge ²	Q_{gd}			11		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{GS} = 10V, V_{DD} = 300V, I_D = 6A, R_G = 25\Omega$		40		nS
Rise Time ²	t_r			33		
Turn-Off Delay Time ²	$t_{d(off)}$			130		
Fall Time ²	t_f			45		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25^\circ C$)						
Continuous Current ³	I_S				6	A
Forward Voltage ¹	V_{SD}	$I_F = 6A, V_{GS} = 0V$			1	V
Reverse Recovery Time	t_{rr}	$I_F = 6A, dI_F/dt = 100A / \mu S$		383		nS
Reverse Recovery Charge	Q_{rr}			3.1		uC

¹Pulse test : Pulse Width $\leq 300\mu\text{sec}$, Duty Cycle $\leq 2\%$.

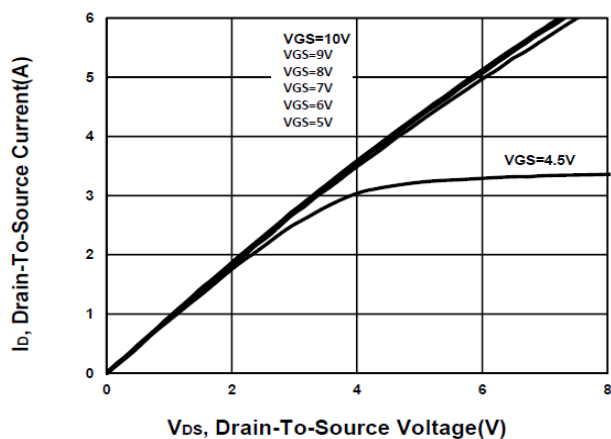
²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

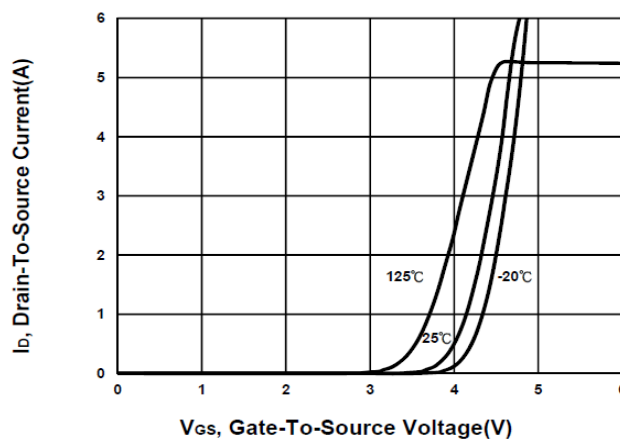
P0660EI

N-Channel Enhancement Mode MOSFET

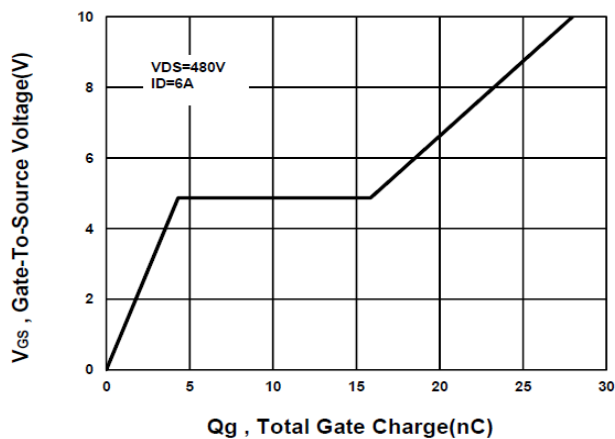
Output Characteristics



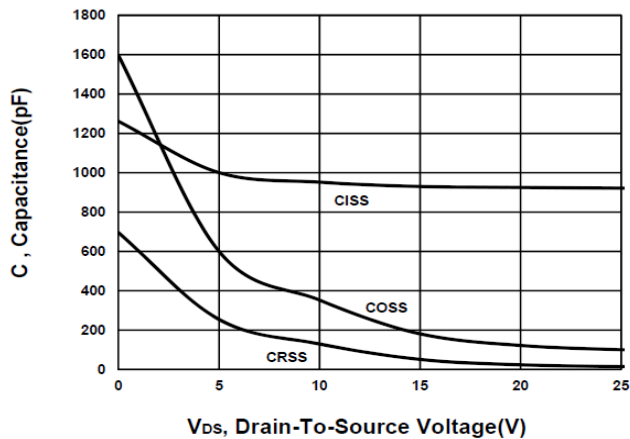
Transfer Characteristics



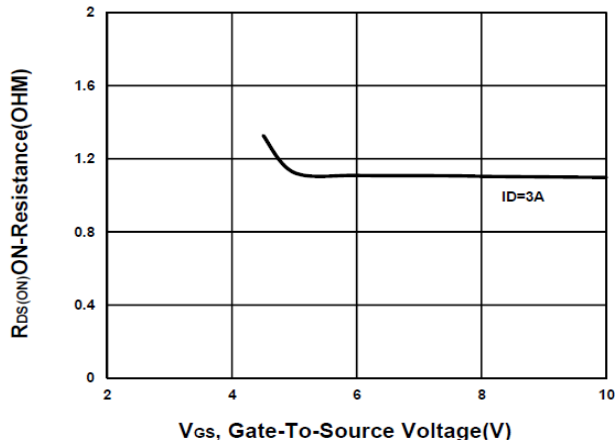
Gate charge Characteristics



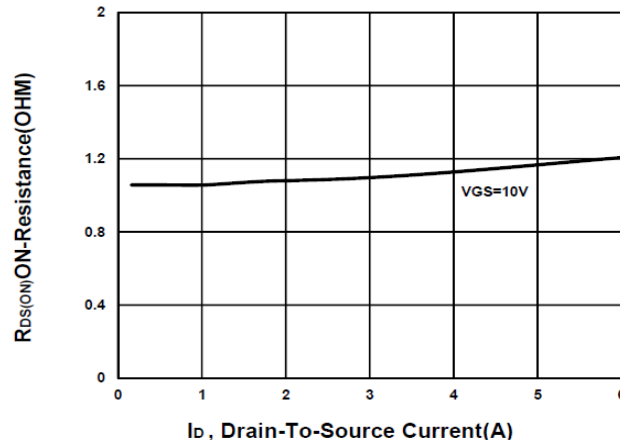
Capacitance Characteristic



On-Resistance VS Gate-To-Source



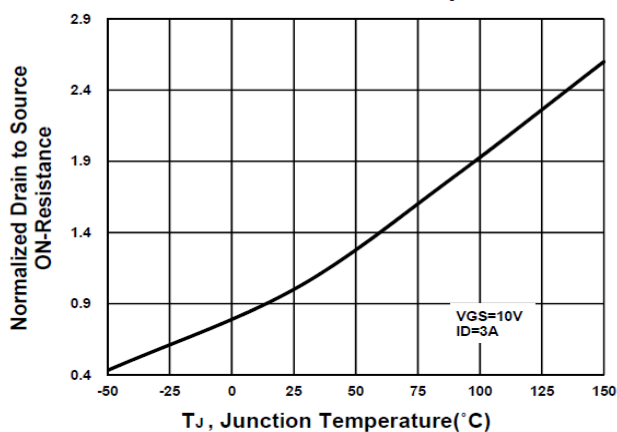
On-Resistance VS Drain Current



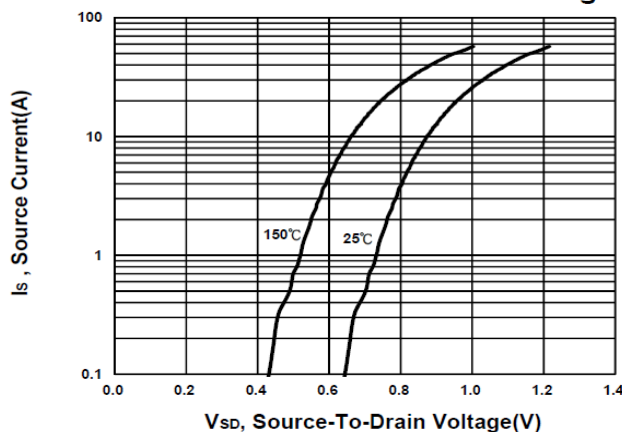
P0660EI

N-Channel Enhancement Mode MOSFET

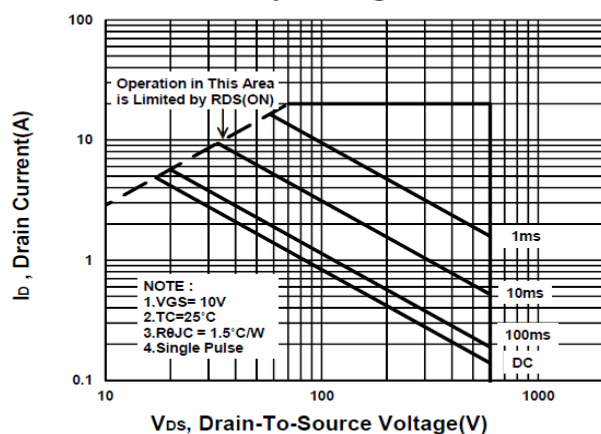
On-Resistance VS Temperature



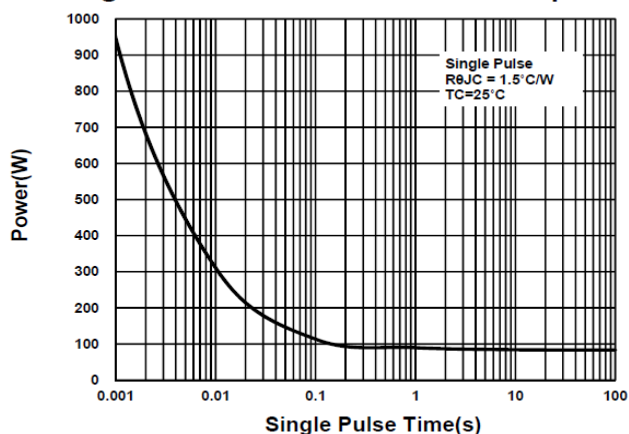
Source-Drain Diode Forward Voltage



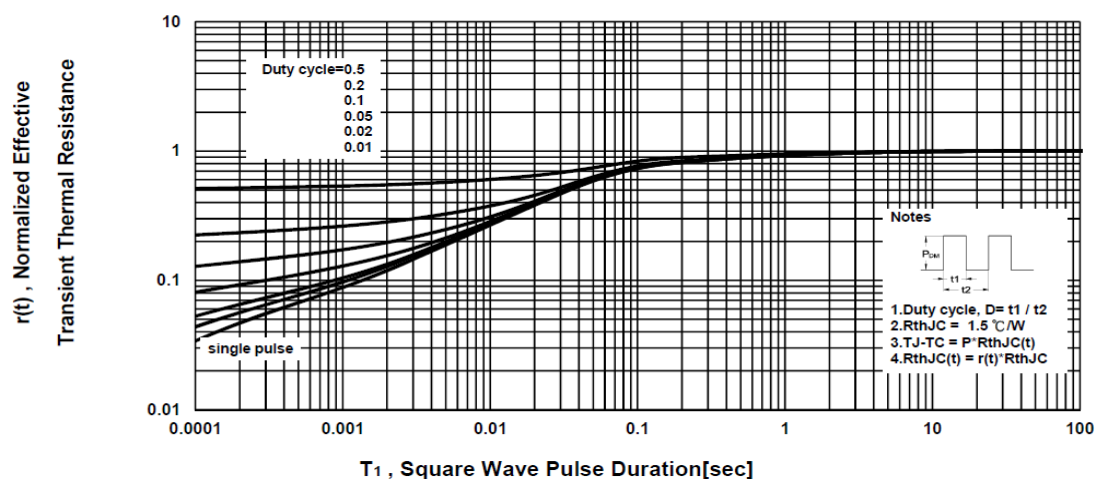
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



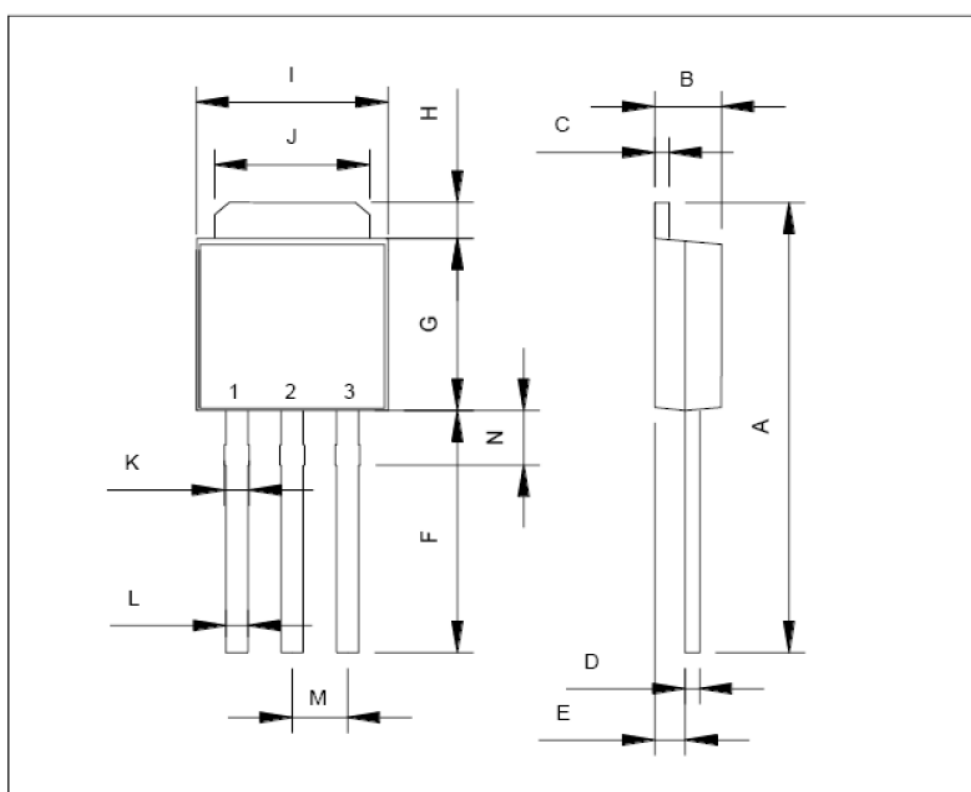
P0660EI

N-Channel Enhancement Mode MOSFET

Package Dimension

TO-251 MECHANICAL DATA

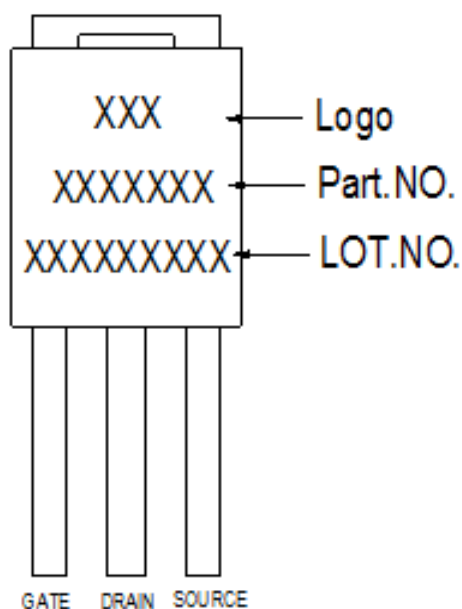
Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	14	15	17.14	H	0.89		1.7
B	2.1	2.3	2.5	I	6.3		6.8
C	0.4	0.5	0.6	J	4.8		5.5
D	0.35	0.5	0.65	K	0.5	0.84	1.14
E	0.9	1.1	1.5	L	0.4	0.76	0.912
F	7		9.65	M		2.3	
G	5.3		6.22	N	1.4	2.16	2.23



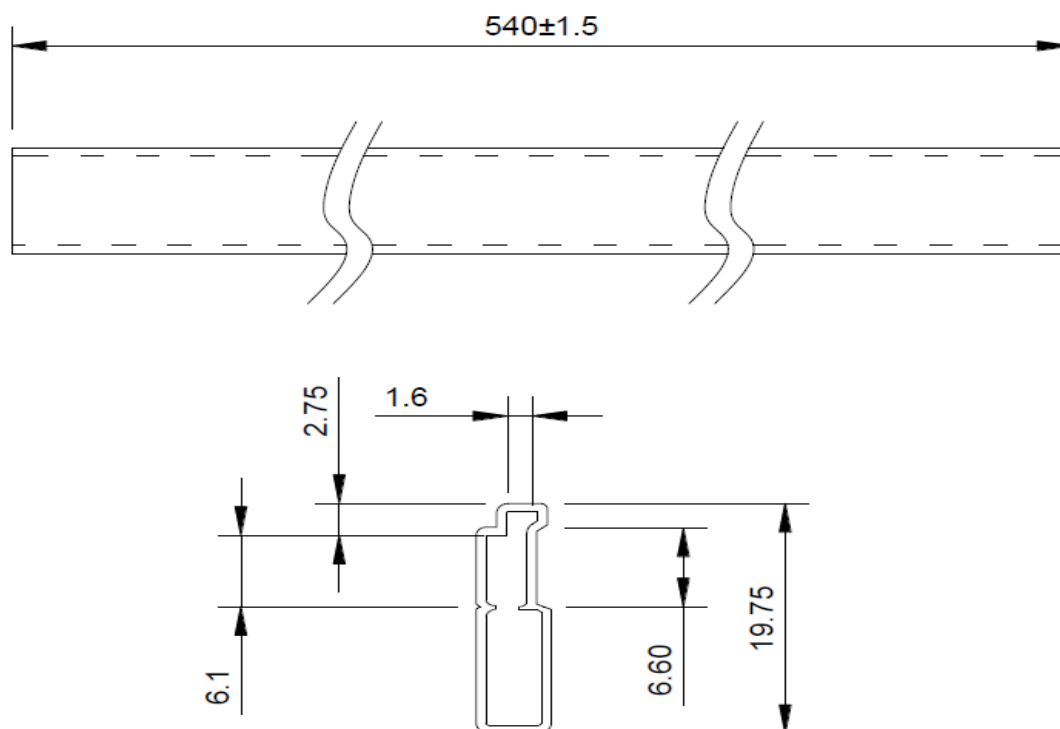
P0660EI

N-Channel Enhancement Mode MOSFET

A. Marking Information



B. Tape&Reel Information:75pcs/Tube

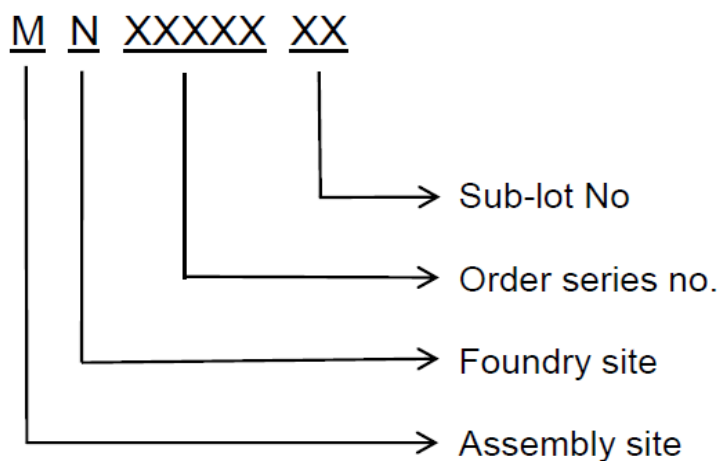


P0660EI

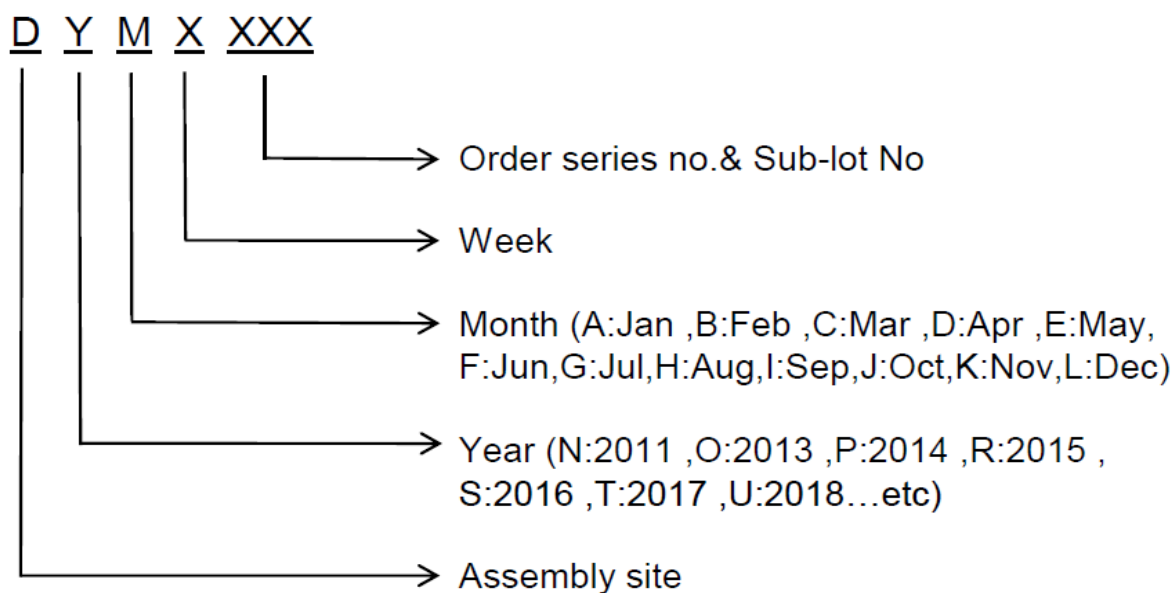
N-Channel Enhancement Mode MOSFET

C. Lot No.&Date Code rule

1.Lot No.



2.Date Code



P0660EI

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	 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