UNIKC Semiconductor

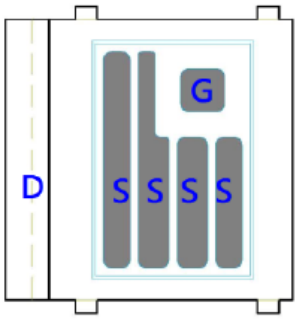
RoHS Compliant

PR804BA33

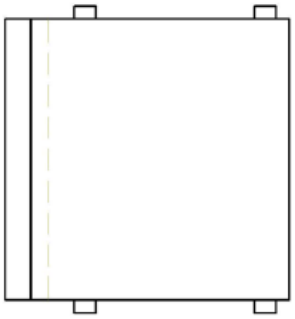
N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30V	1.4mΩ @V_{GS} = 10V	149A



Bottom View



Top View

Side View

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current[4]	T_C = 25 °C	I_D	149	A
	T_C = 100 °C		94	
	T_A = 25 °C		37	
	T_A= 70 °C		29	
Pulsed Drain Current[1]		I_{DM}	200	
Avalanche Current		I_{AS}	51	
Avalanche Energy	L =0.1mH	E_{AS}	130	mJ
Power Dissipation[3]	T_C = 25 °C	P_D	50	W
	T_C = 100 °C		20	
	T_A = 25 °C		3.1	
	T_A = 70 °C		2	
Operating Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150	°C

UNIKC Semiconductor

RoHS Compliant

PR804BA33

N-Channel Enhancement Mode MOSFET

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE		SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient[2]	t ≦10s	$R_{\theta JA}$		40	°C / W
Junction-to-Ambient[2]	Steady-State	$R_{\theta JA}$		60	
Junction-to-Case	Top	$R_{\theta JC}$		2.5	

[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, in a still air environment with T_A =25° C.

[3]The Power dissipation is based on $R_{\theta JA}$ t ≦10s value.

[4]The maximum current rating is package limited.

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	30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	1.3	1.6	2.3	
Gate-Body Leakage	I_{GSS}	V_{DS} = 0V, V_{GS} = ±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 24V, V_{GS} = 0V			1	μA
		V_{DS} = 20V, V_{GS} = 0V, T_J =55 °C			10	
Drain-Source On-State Resistance[1]	$R_{DS(ON)}$	V_{GS} = 4.5V, I_D = 16A		1.9	2.5	mΩ
		V_{GS} = 10V , I_D = 20A		1.1	1.4	
Forward Transconductance[1]	g_{fs}	V_{DS} = 5V, I_D = 20A		87		S
DYNAMIC						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 15V, f = 1MHz		3322		pF
Output Capacitance	C_{oss}			1513		
Reverse Transfer Capacitance	C_{rss}			59		
Gate Resistance	R_g	V_{GS} = 0V, V_{DS} = 0V, f = 1MHz		0.8		Ω
Total Gate Charge[2]	Q_g(V_{GS}=10V)	V_{DS} = 15V ,V_{GS} = 10V, I_D = 20A		62.8		nC
	Q_g(V_{GS}=4.5V)			31.1		
Gate-Source Charge[2]	Q_{gs}			8		
Gate-Drain Charge[2]	Q_{gd}			13.7		
Turn-On Delay Time[2]	$t_{d(on)}$	V_{DS}= 15V, I_D ≅ 20A, V_{GS} = 10V, R_{GEN} = 6Ω		26		nS
Rise Time[2]	t_r			130		
Turn-Off Delay Time[2]	$t_{d(off)}$			95		
Fall Time[2]	t_f			148		

PR804BA33

N-Channel Enhancement Mode MOSFET

SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current[3]	I_S				41	A
Forward Voltage[1]	V_{SD}	I_F = 20A, V_{GS} = 0V			1.2	V
Reverse Recovery Time	t_{rr}	I_F = 20A, dI_F/dt = 100A / μS		60		nS
Reverse Recovery Charge	Q_{rr}			66		nC

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

[2]Independent of operating temperature.

[3]The maximum current rating is package limited.

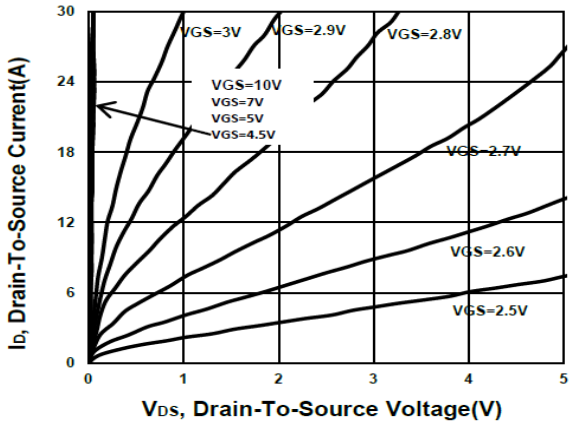
UNIKC Semiconductor

RoHS Compliant

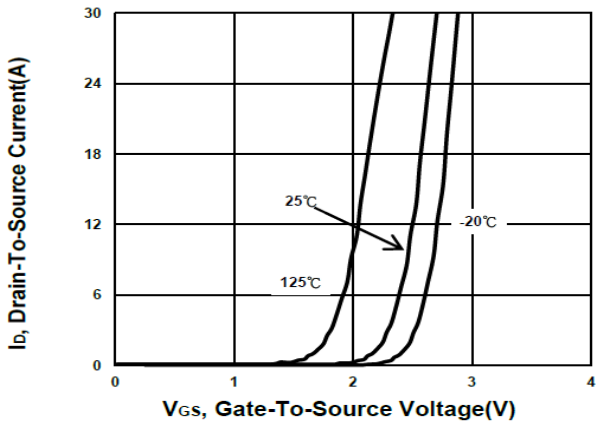
PR804BA33

N-Channel Enhancement Mode MOSFET

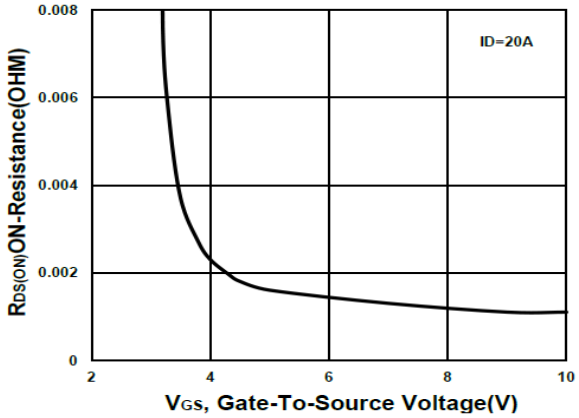
Output Characteristics



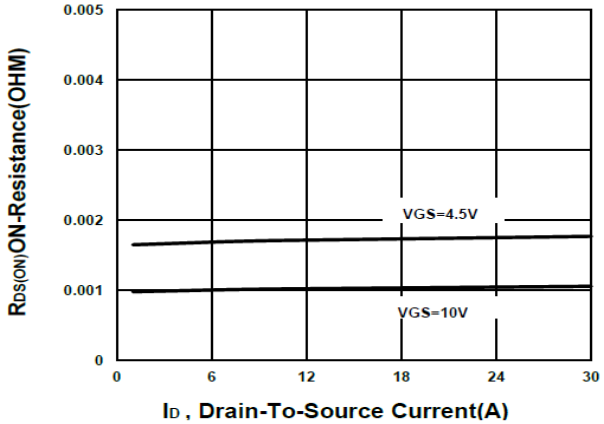
Transfer Characteristics



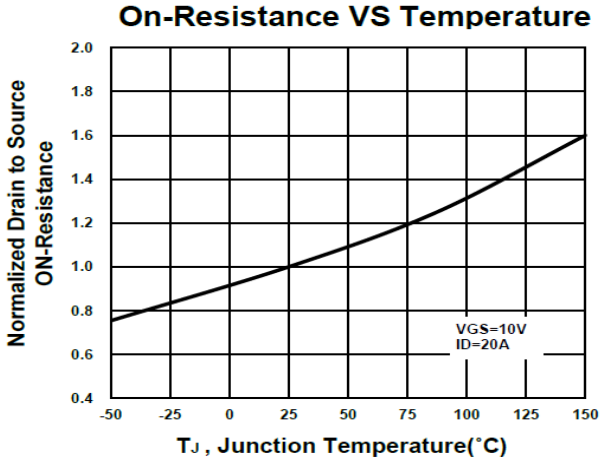
On-Resistance VS Gate-To-Source Voltage



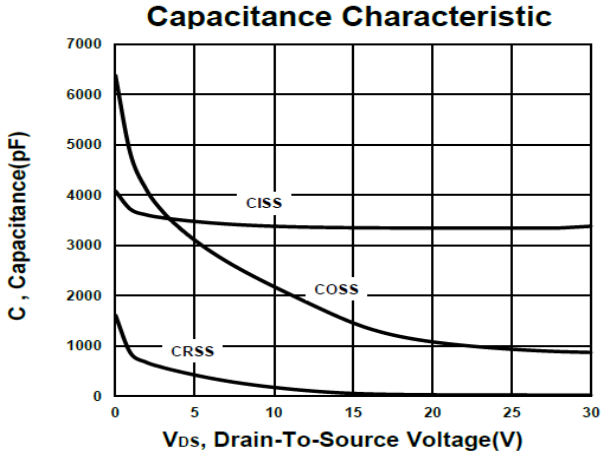
On-Resistance VS Drain Current



On-Resistance VS Temperature



Capacitance Characteristic



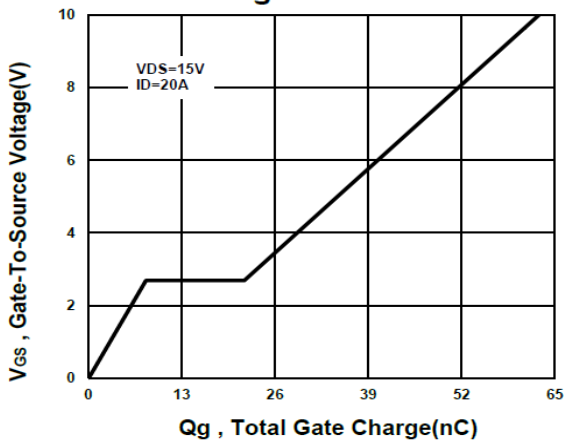
UNIKC Semiconductor

RoHS Compliant

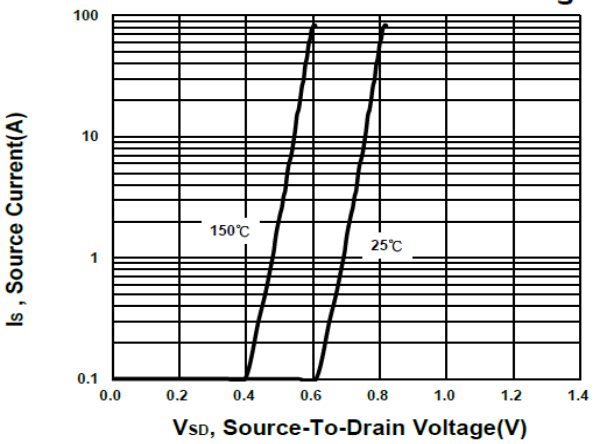
PR804BA33

N-Channel Enhancement Mode MOSFET

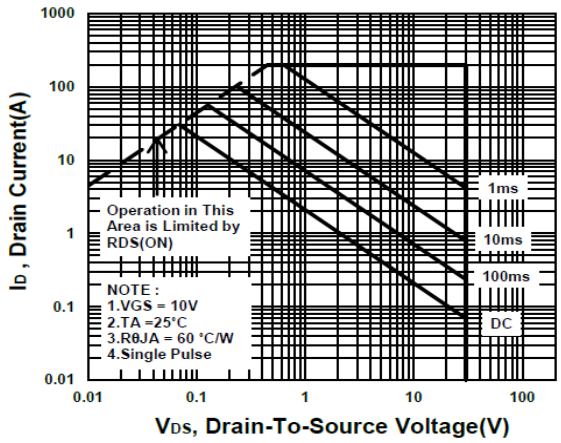
Gate charge Characteristics



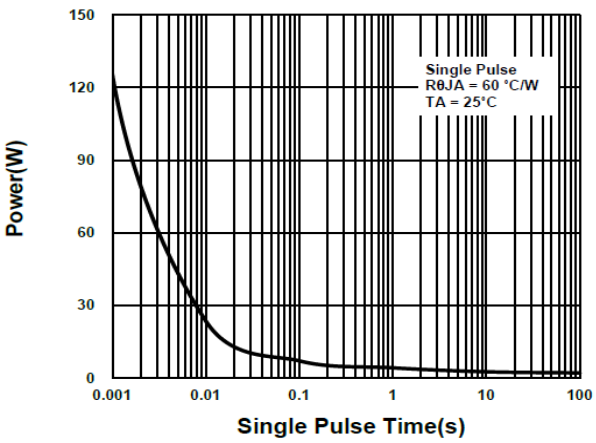
Source-Drain Diode Forward Voltage



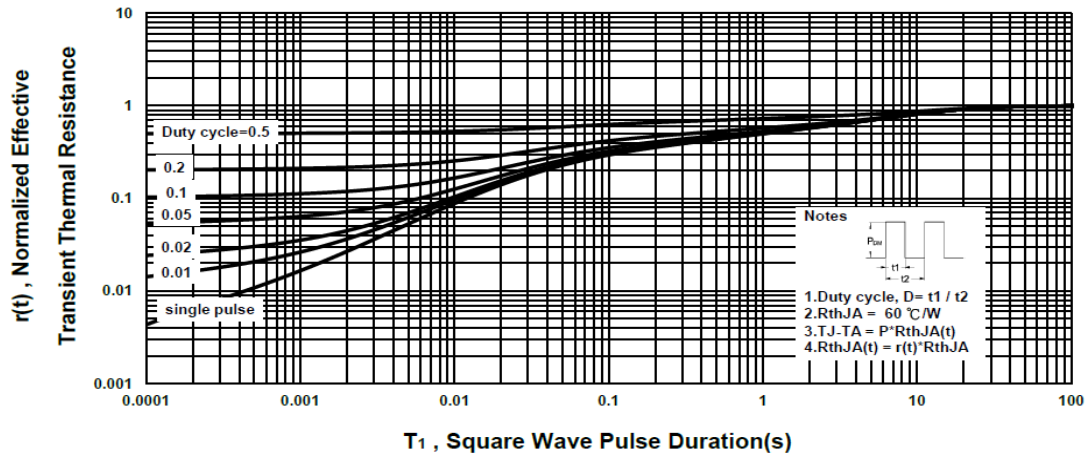
Safe Operating Area



Single Pulse Maximum Power Dissipation



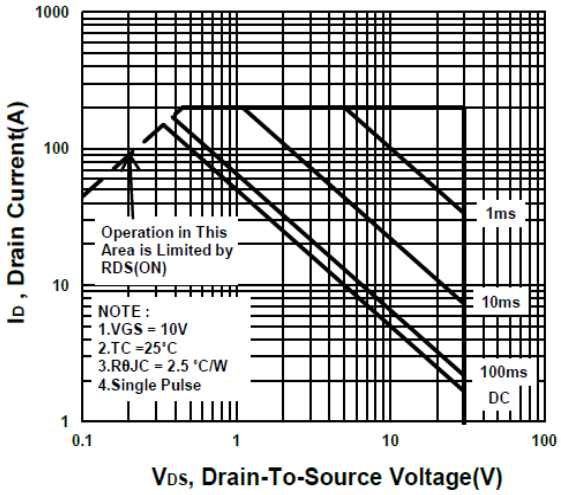
Transient Thermal Response Curve



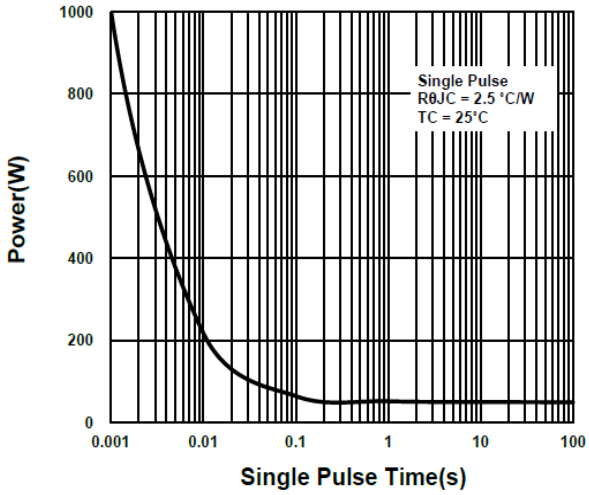
PR804BA33

N-Channel Enhancement Mode MOSFET

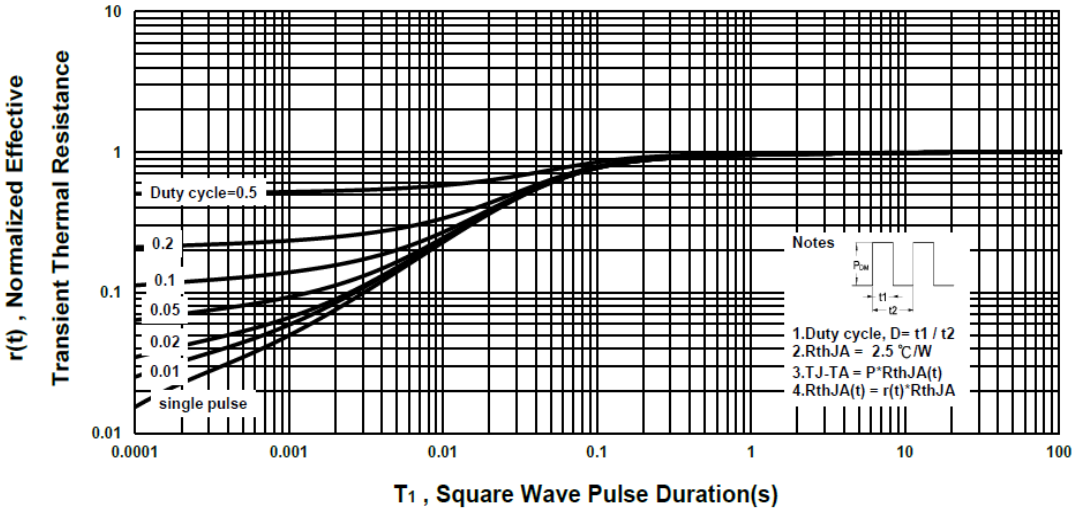
Safe Operating Area, (Top)



Single Pulse Maximum Power Dissipation, (Top)



Transient Thermal Response Curve, (Top)



UNIKC Semiconductor

RoHS Compliant

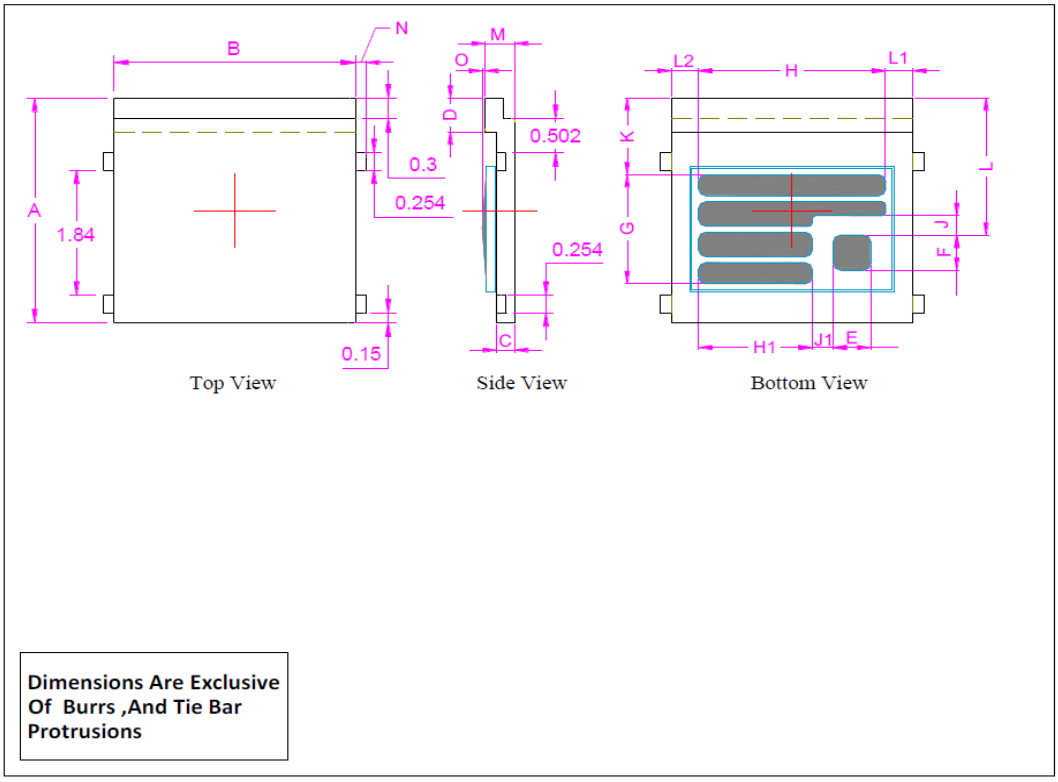
PR804BA33

N-Channel Enhancement Mode MOSFET

Package Dimension

PowerFET 3x3 MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	3.20	3.30	3.40	J	0.27	0.29	0.31
B	3.20	3.30	3.40	J1	0.27	0.29	0.31
C		0.254		K	1.03	1.13	1.23
D	0.45	0.50	0.55	L	1.91	2.01	2.11
E	0.49	0.51	0.53	L1	0.28	0.38	0.48
F	0.49	0.51	0.53	L2	0.28	0.38	0.48
G	1.58	1.60	1.62	M		0.40	0.45
H	2.53	2.55	2.57	N			0.15
H1	1.53	1.55	1.57	O	0.02		0.08



Dimensions Are Exclusive Of Burrs ,And Tie Bar Protrusions

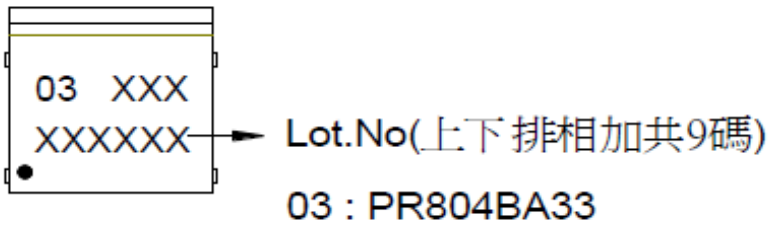
UNIKC Semiconductor

RoHS Compliant

PR804BA33

N-Channel Enhancement Mode MOSFET

A. Marking Information



UNIKC Semiconductor

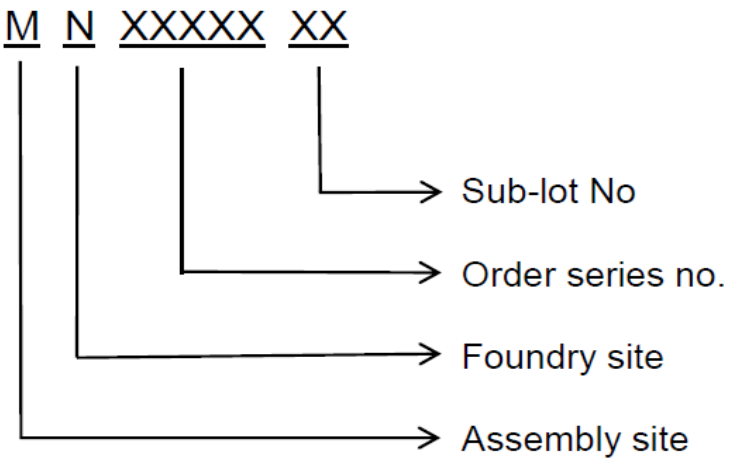
RoHS Compliant

PR804BA33

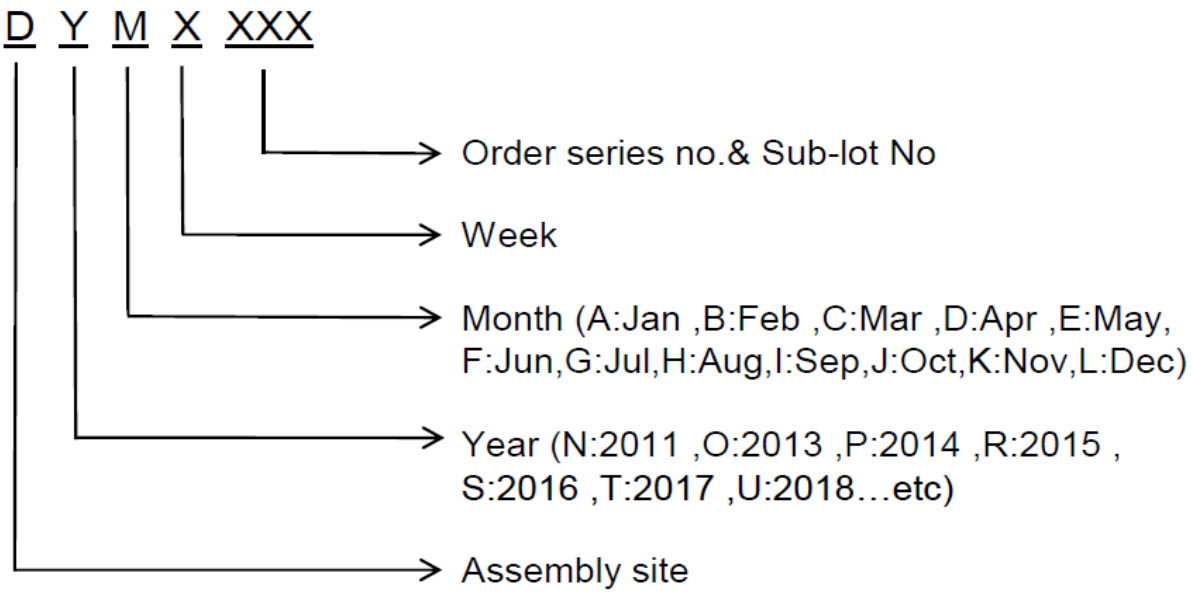
N-Channel Enhancement Mode MOSFET

C. Lot No.&Date Code rule

1.Lot No.



2.Date Code



UNIKC Semiconductor

RoHS Compliant

PR804BA33

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”O”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

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for MOSFET ***category:***

Click to view products by U-NIK ***manufacturer:***

Other Similar products are found below :

614233C 648584F MCH3443-TL-E MCH6422-TL-E FDPF9N50NZ FW216A-TL-2W FW231A-TL-E APT5010JVR NTNS3A92PZT5G IRF100S201 JANTX2N5237 2SK2464-TL-E 2SK3818-DL-E FCA20N60_F109 FDZ595PZ STD6600NT4G FSS804-TL-E 2SJ277-DL-E 2SK1691-DL-E 2SK2545(Q,T) D2294UK 405094E 423220D MCH6646-TL-E TPCC8103,L1Q(CM 367-8430-0972-503 VN1206L 424134F 026935X 051075F SBVS138LT1G 614234A 715780A NTNS3166NZT5G 751625C 873612G IRF7380TRHR IPS70R2K0CEAKMA1 RJK60S3DPP-E0#T2 RJK60S5DPK-M0#T0 APT5010JVFR APT12031JFLL APT12040JVR DMN3404LQ-7 NTE6400 JANTX2N6796U JANTX2N6784U JANTXV2N5416U4 SQM110N05-06L-GE3 SIHF35N60E-GE3