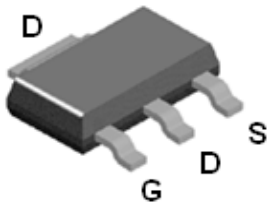
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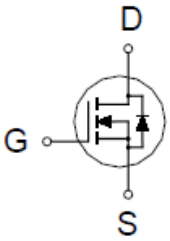
N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	110mΩ @V_{GS} = 10V	3A



SOT- 223



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_C = 25 °C	I_D	6	A
	T_A = 25 °C		3.2	
	T_A = 100 °C		2	
Pulsed Drain Current[1]		I_{DM}	15	
Avalanche Current		I_{AS}	6.6	
Avalanche Energy	L = 0.1mH	E_{AS}	2.2	mJ
Power Dissipation	T_A = 25 °C	P_D	2.5	W
	T_A = 100 °C		1	
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]	$R_{\theta JA}$		50	°C / W
Junction-to-Case	$R_{\theta JC}$		14	

[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.

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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	100			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	1	1.8	3	
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 = 6A		89	120	mΩ
		V_{GS} = 10V, I_D = 6A		84	110	
Forward Transconductance[1]	g_{fs}	V_{DS} = 5V, I_D = 6A		22		S
DYNAMIC						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 25V, f = 1MHz		579		pF
Output Capacitance	C_{oss}			57		
Reverse Transfer Capacitance	C_{rss}			31		
Gate Resistance	R_g	V_{GS} = 0V, V_{DS} = 0V, f = 1MHz		1.4		Ω
Total Gate Charge[2]	Q_g	V_{DS} = 50V, V_{GS} = 10V, I_D = 6A		14		nC
Gate-Source Charge[2]	Q_{gs}			1.8		
Gate-Drain Charge[2]	Q_{gd}			4.6		
Turn-On Delay Time[2]	$t_{d(on)}$	V_{DS} = 50V, I_D ≅ 6A V_{GS} = 10V, R_{GS} = 6Ω		16		nS
Rise Time[2]	t_r			5		
Turn-Off Delay Time[2]	$t_{d(off)}$			36		
Fall Time[2]	t_f			10		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current	I_S				1.7	A
Forward Voltage[1]	V_{SD}	I_F = 6A, V_{GS} = 0V			1.4	V
Reverse Recovery Time	t_{rr}	I_F = 6A, dI/dt = 100A / μS		22		nS
Reverse Recovery Charge	Q_{rr}			15		nC

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

[2]Independent of operating temperature.

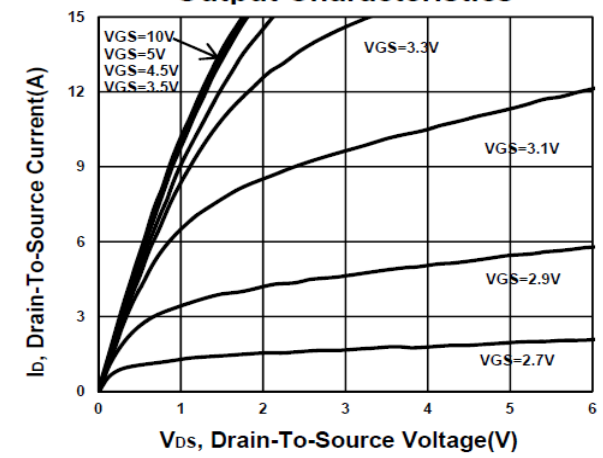
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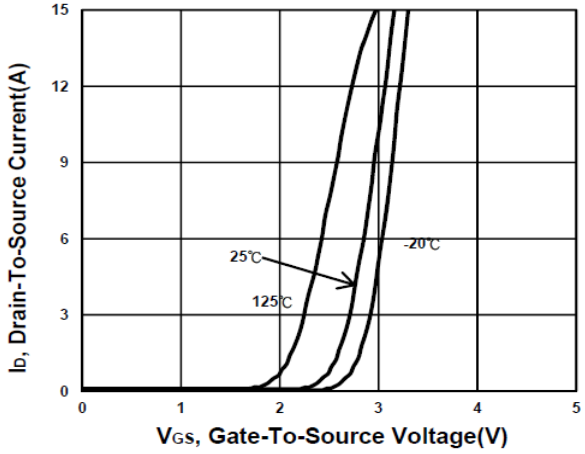
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N-Channel Enhancement Mode MOSFET

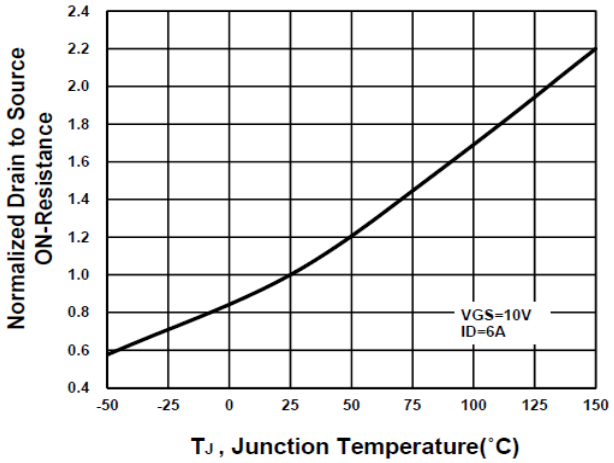
Output Characteristics



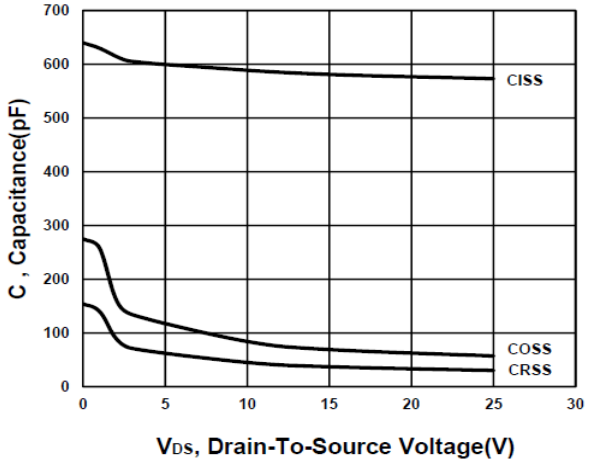
Transfer Characteristics



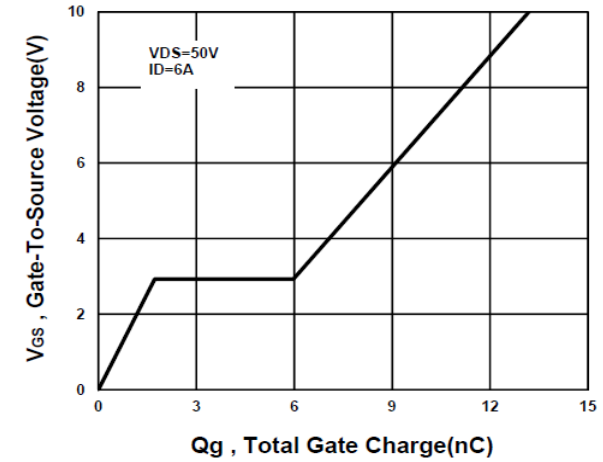
On-Resistance VS Temperature



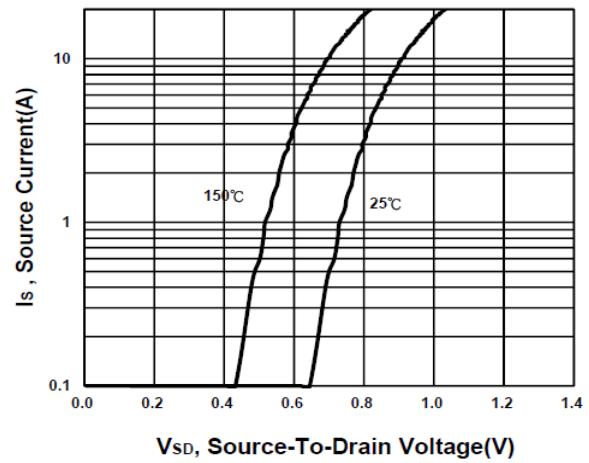
Capacitance Characteristic



Gate charge Characteristics



Source-Drain Diode Forward Voltage



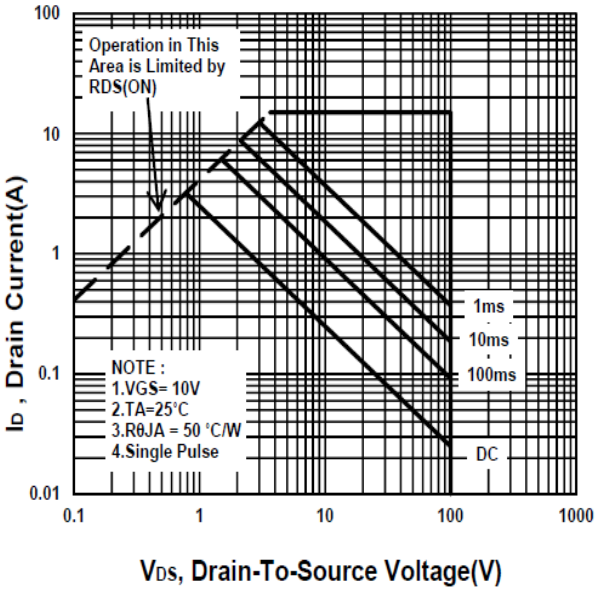
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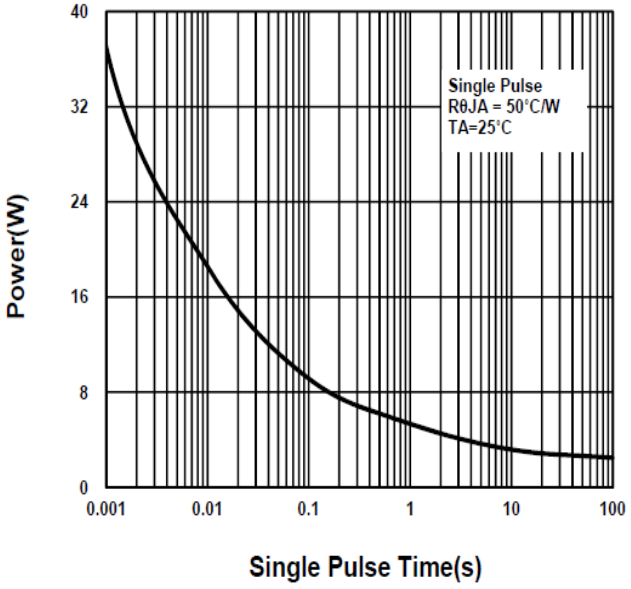
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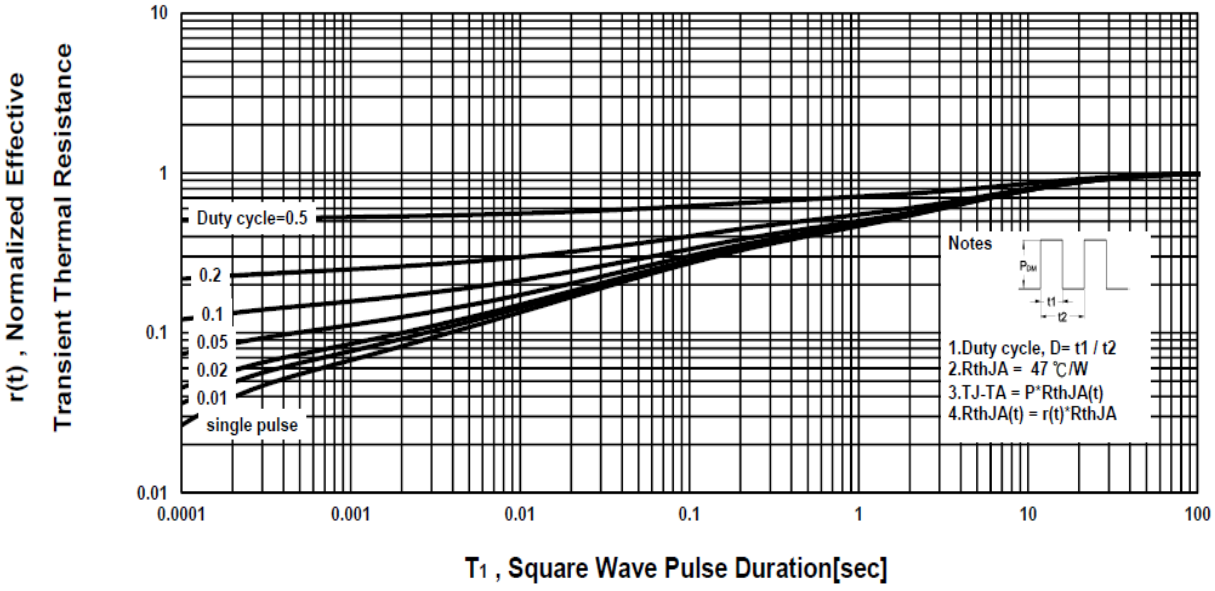
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



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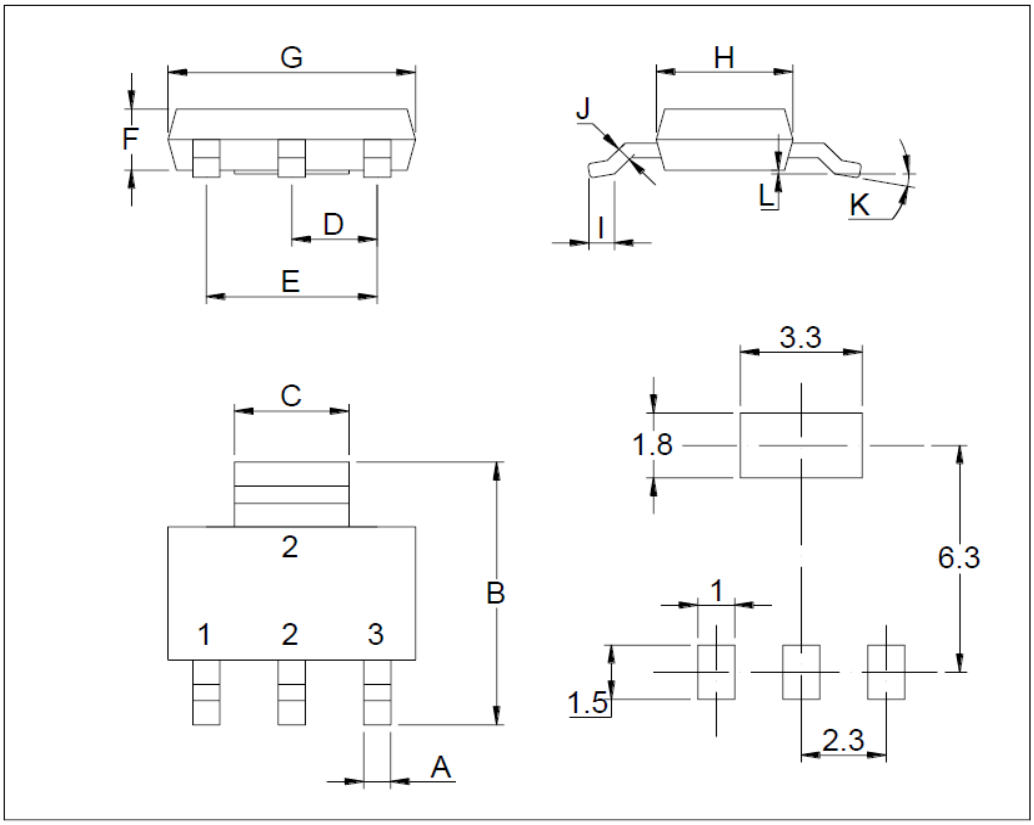
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SOT-223 MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	0.60	0.76	0.84	H	3.30	3.50	3.70
B	6.70	7.00	7.30	I	0.50	1.00	1.20
C	2.85	3.00	3.10	J	0.23	0.3	0.4
D	2.25	2.30	2.35	K	0°		10°
E	4.35	4.60	4.85	L	0	0.1	0.2
F	1.40	1.60	1.80	M			
G	6.30	6.50	6.80	N			



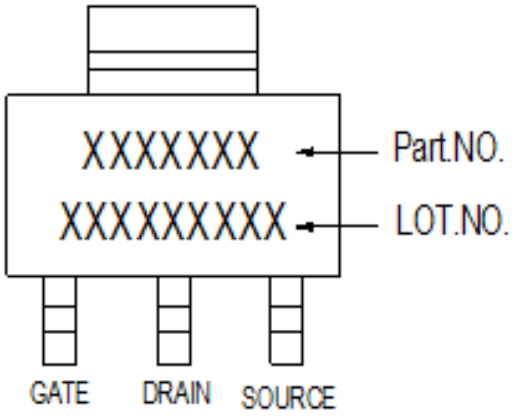
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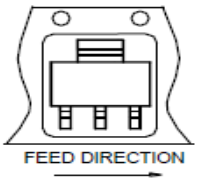
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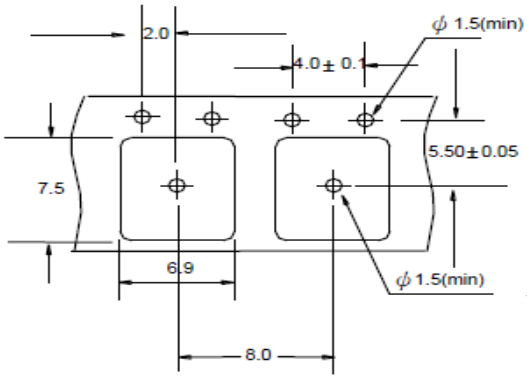
N-Channel Enhancement Mode MOSFET

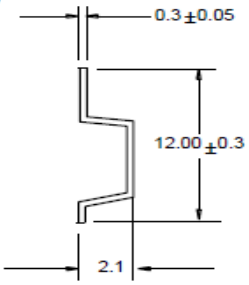
A. Marking Information

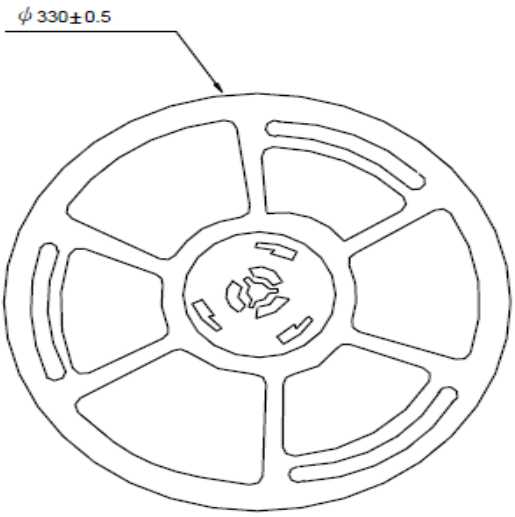


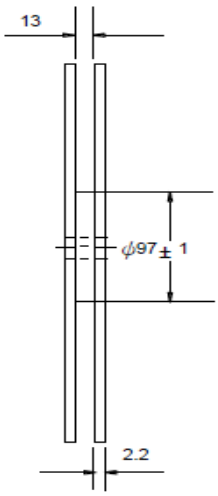
B. Tape&Reel Information:2500pcs/Reel











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N-Channel Enhancement Mode MOSFET

C. Lot.No. & Date Code rule

1.LOT.NO.

M N 15M21 03

- 03 → #8~9 Sub-lot No
- 15M21 → Order series no.
- N → Foundry site
- M → Assembly site

2.Date Code

D Y M X XXX

- XXX → Order series no. & Sub-lot No
- X → Week
- M → M : Month (A:Jan , B:Feb , C:Mar ,D :Apr ,E:May ,F:Jun,G:Jul,H:Aug,I:Sep,J:Oct,K:Nov,L:Dec.)
- Y → Y : Year (N : 2011, O : 2012 ...)
- D → Assembly site

3.Date Code (for Small package)

XX Y WW

- WW → Week
- Y → Y : Year (9: 2009,A : 2010, B : 2011 ...)
- XX → Device Name

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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”O”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