ME2308S/ME2308S-G

N-Channel 60V (D-S) MOSFET

GENERAL DESCRIPTION

The ME2308S is the N-Channel logic enhancement mode power field effect transistors are produced using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance. These devices are particularly suited for low voltage application such as cellular phone and notebook computer power management and other battery powered circuits where high-side switching and low in-line power loss are needed in a very small outline surface mount package.

FEATURES

- $R_{DS(ON)} \leqq 100m\Omega @ V_{GS}=10V$
- $R_{DS(ON)} \leqq 130m\Omega @ V_{GS}=4.5V$
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability

APPLICATIONS

- Power Management in Note book
- Portable Equipment
- DC/DC Converter
- Load Switch
- LCD Display inverter

PIN CONFIGURATION

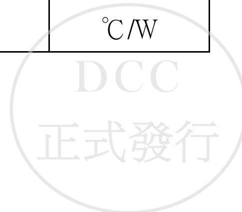
Ordering Information: ME2308S (Pb-free)

ME2308S-G (Green product-Halogen free)

Absolute Maximum Ratings (T_A=25℃ Unless Otherwise Noted)

Parameter		Symbol	Maximum Ratings	Unit
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current(Tj=150℃)*	T_A=25℃	I_D	2.6	A
	T_A=70℃		2.1	
Pulsed Drain Current		I_{DM}	10	A
Maximum Power Dissipation*	T_A=25℃	P_D	1.04	W
	T_A=70℃		0.67	
Operating Junction & Storage Temperature Range		T_J	-55 to 150	℃
Thermal Resistance-Junction to Ambient*		$R_{\theta JA}$	110	℃/W

*The device mounted on $1in^2$ FR4 board with 2 oz copper



N-Channel 60V (D-S) MOSFET

Electrical Characteristics (T_A =25℃ Unless Otherwise Specified)

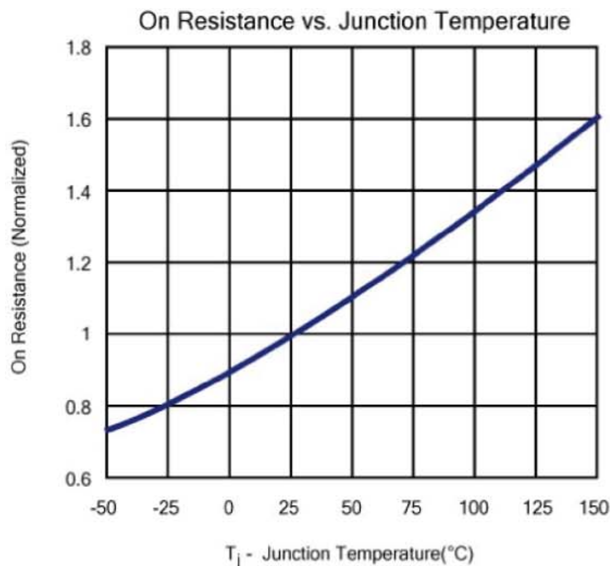
Symbol	Parameter	Limit	Min	Typ	Max	Unit
STATIC						
V_{DS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250 μA	60			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=250 μA	1.0		3.0	V
I_{GSS}	Gate Leakage Current	V_{DS}=0V, V_{GS}=±20V			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=60V, V_{GS}=0V			1	μA
$R_{DS(ON)}$	Drain-Source On-Resistance[a]	V_{GS}=10V, I_D= 2.6A		82	100	mΩ
		V_{GS}=4.5V, I_D= 2.1A		96	130	
V_{SD}	Diode Forward Voltage	I_S=1A, V_{GS}=0V		0.8	1.2	V
DYNAMIC						
Qg	Total Gate Charge	V_{DS}=30V, V_{GS}=10V, I_D=2.6A		12		nC
Qg	Total Gate Charge	V_{DS}=30V, V_{GS}=4.5V, I_D=2.6A		6.5		
Qgs	Gate-Source Charge			2.2		
Qgd	Gate-Drain Charge			2.7		
Ciss	Input capacitance	V_{DS}=30V, V_{GS}=0V, f=1.0MHz		350		pF
Coss	Output Capacitance			40		
Crss	Reverse Transfer Capacitance			12		
Rg	Gate Resistance	V_{DS}=0V, V_{GS}=0V, f=1MHz		0.7		Ω
$t_{d(on)}$	Turn-On Delay Time	V_{DD}=20V, R_L =20Ω I_D=1A, V_{GEN}=10V R_G=1Ω		10		ns
t_r	Turn-On Rise Time			11		
$t_{d(off)}$	Turn-Off Delay Time			29		
t_f	Turn-Off Fall Time			3		

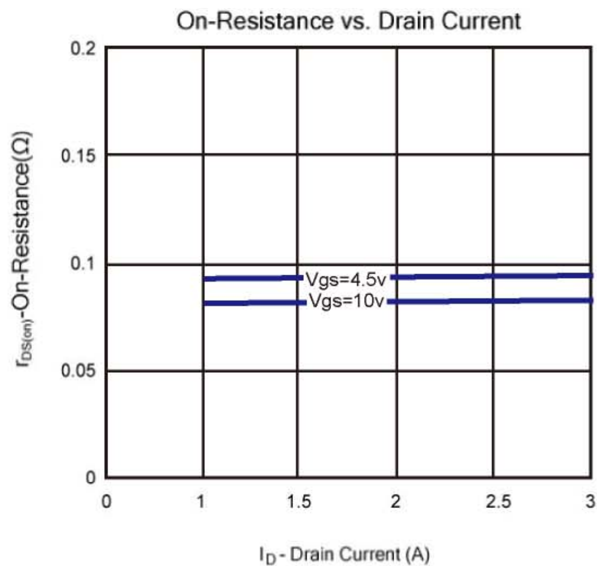
Notes: a. Pulse test: pulse width≦ 300us, duty cycle≦ 2%, Guaranteed by design, not subject to production testing.

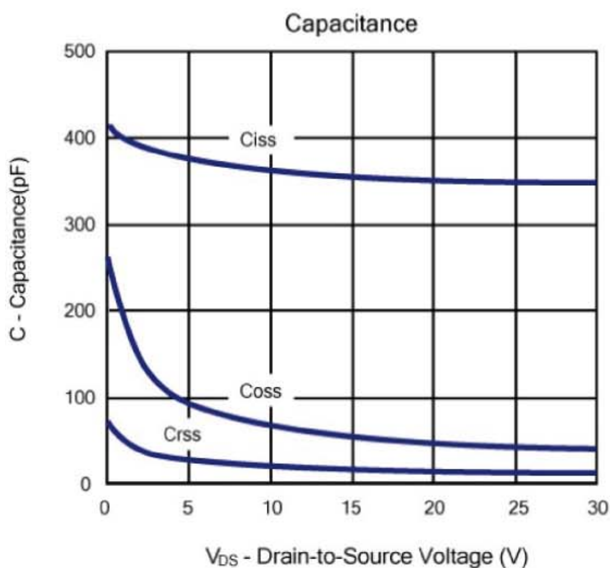
b. Matsuki Electric/ Force mos reserves the right to improve product design, functions and reliability without notice.

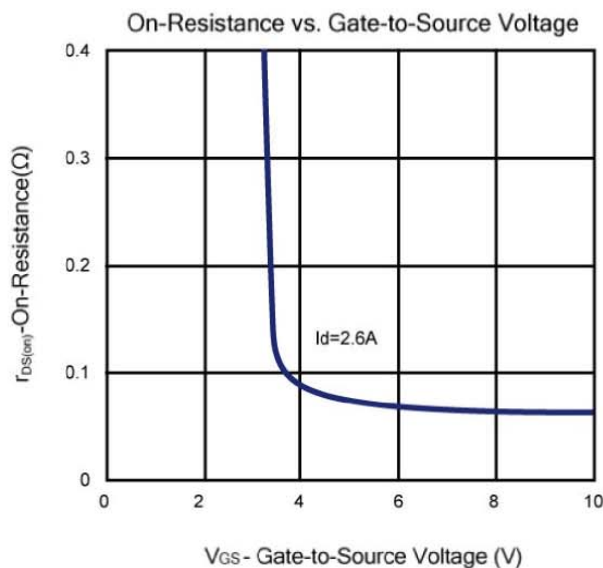
N-Channel 60V (D-S) MOSFET

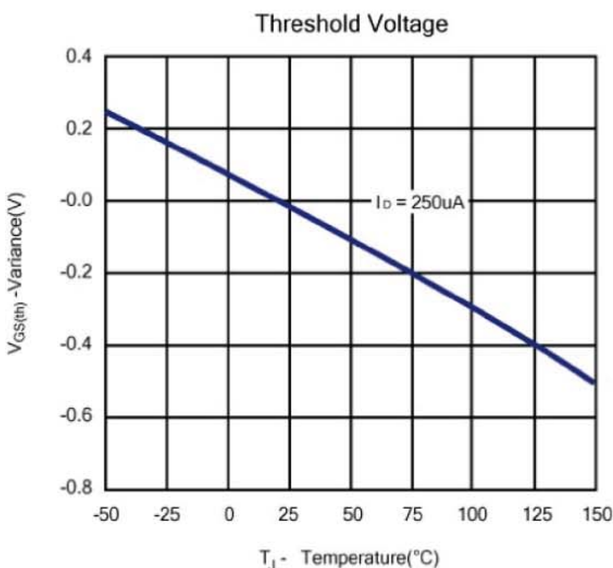
Typical Characteristics (T_J =25℃ Noted)

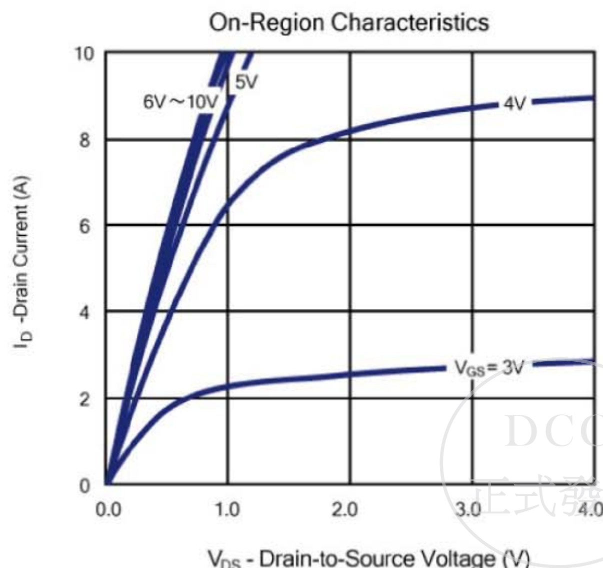








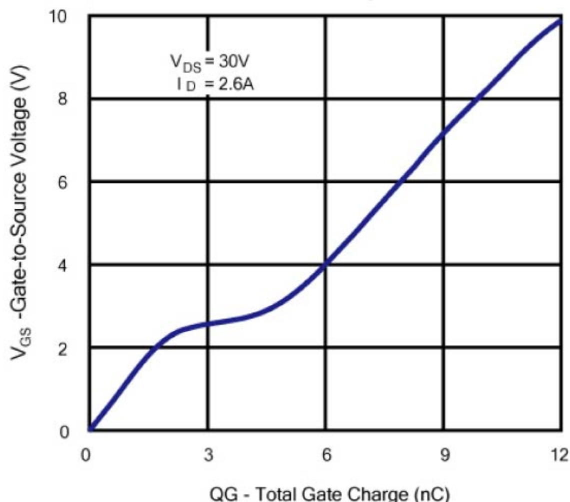


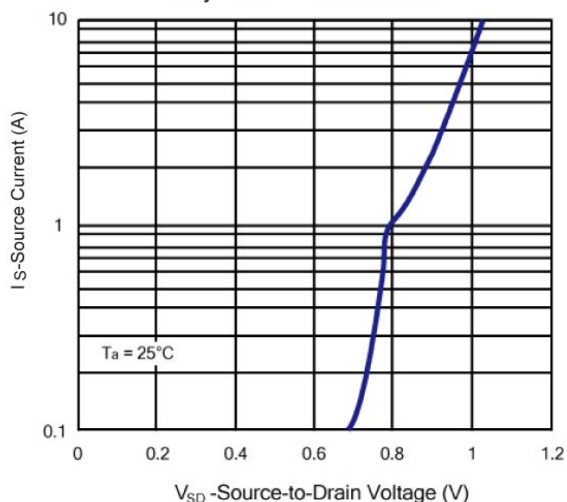


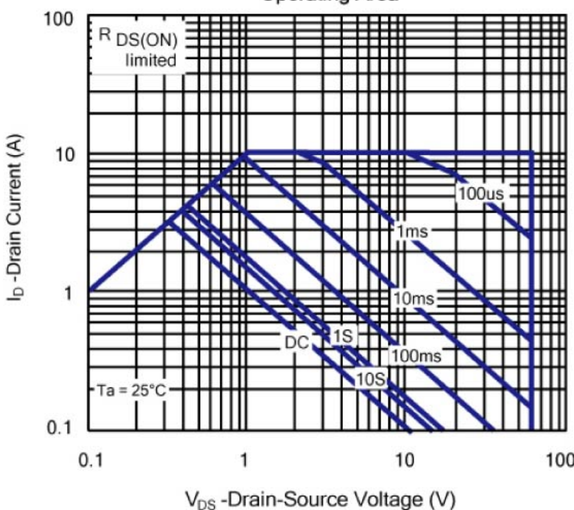
DCC
正式發行

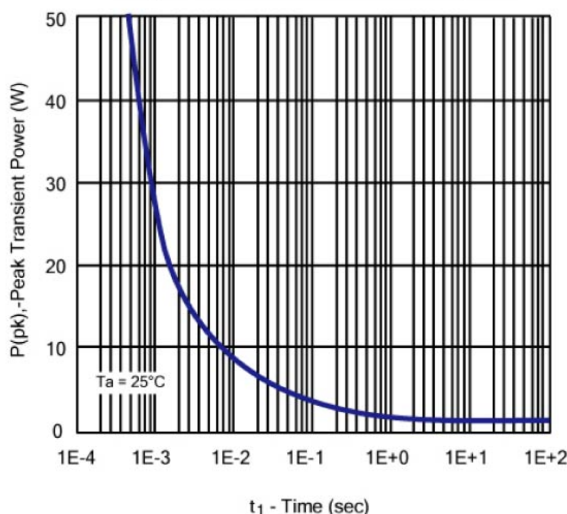
N-Channel 60V (D-S) MOSFET

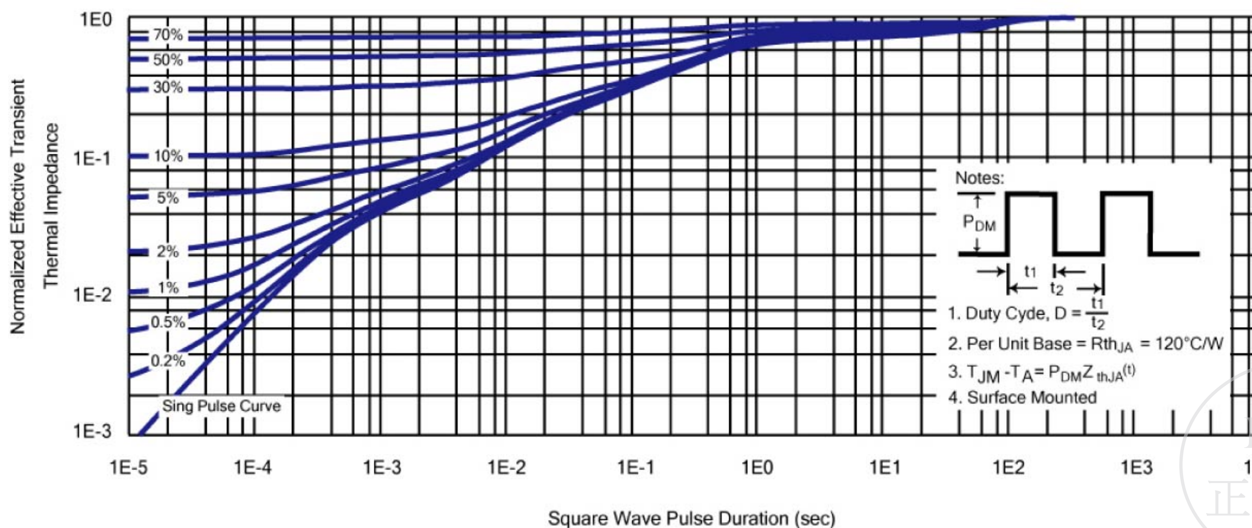
Typical Characteristics (T_J =25℃ Noted)

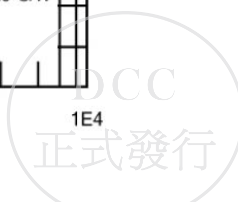




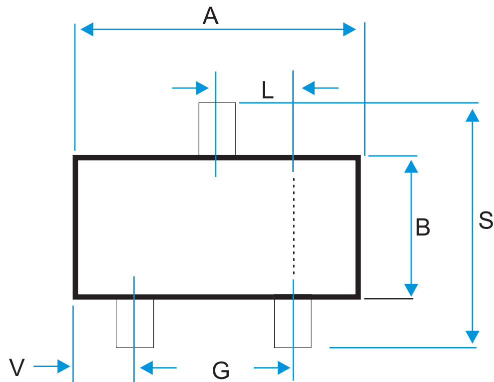


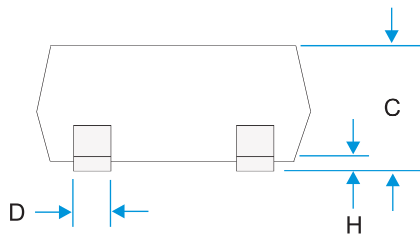


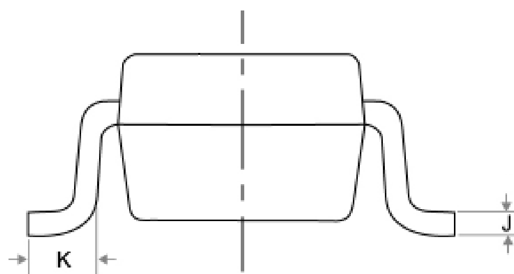




SOT-23 Package Outline







Symbol	MILLIMETERS (mm)	
	MIN	MAX
A	2.800	3.00
B	1.200	1.70
C	0.900	1.30
D	0.350	0.50
G	1.780	2.04
H	0.010	0.15
J	0.085	0.20
K	0.300	0.65
L	0.890	1.02
S	2.100	3.00
V	0.450	0.60