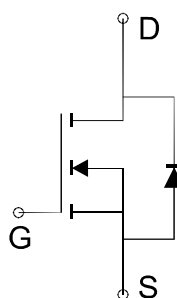
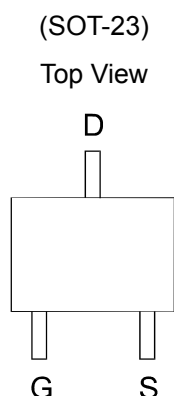


N-Channel 30V (D-S)MOSFET

GENERAL DESCRIPTION

The ME2306AS is the N-Channel logic enhancement mode power field effect transistors, 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, notebook computer power management and other battery powered circuits, and low in-line power loss that are needed in a very small outline surface mount package.

PIN CONFIGURATION



Ordering Information: ME2306AS (Pb-free)

ME2306AS-G (Green product-Halogen free)

FEATURES

- $R_{DS(ON)} \leq 32m\Omega @ V_{GS}=10V$
- $R_{DS(ON)} \leq 38m\Omega @ V_{GS}=4.5V$
- $R_{DS(ON)} \leq 50m\Omega @ V_{GS}=2.5V$
- 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
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

Absolute Maximum Ratings ($T_A=25^\circ C$ Unless Otherwise Noted)

Parameter		Symbol	Maximum Ratings	Unit
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	± 12	V
Continuous Drain Current	$T_A=25^\circ C$	I_D	5.3	A
	$T_A=70^\circ C$		4.3	
Pulsed Drain Current		I_{DM}	21.5	
Maximum Power Dissipation	$T_A=25^\circ C$	P_D	1.3	W
	$T_A=70^\circ C$		0.8	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^\circ C$
Thermal Resistance-Junction to Ambient*		$R_{\theta JA}$	90	$^\circ C/W$

*The device mounted on 1in2 FR4 board with 2 oz copper

DCC
正式發行

N-Channel 30V (D-S)MOSFET

Electrical Characteristics (TA=25°C Unless Otherwise Specified)

Symbol	Parameter	Limit	Min	Typ	Max	Unit
STATIC PARAMETERS						
V(BR)DSS	Drain-Source Breakdown Voltage	VGS=0V, ID=250 μ A	30			V
VGS(th)	Gate Threshold Voltage	VDS=VGS, ID=250 μ A	0.7		1.4	
IGSS	Gate-Body Leakage Current	VDS=0V, VGS=±12V			±100	nA
IDSS	Zero Gate Voltage Drain Current	VDS=30V, VGS=0V			1	μ A
RDS(ON)	Drain-Source On-Resistance ^a	VGS=10V, ID= 4A		25	32	m Ω
		VGS=4.5V, ID= 3.5A		29	38	
		VGS=2.5V, ID= 2.8A		39	50	
VSD	Diode Forward Voltage	IS=1.25A, VGS=0V		0.8	1.2	V
DYNAMIC PARAMETERS						
Qg	Total Gate Charge	VDS=15V, VGS=10V, ID=4A		17		nC
Qgs	Gate-Source Charge			2.5		
Qgd	Gate-Drain Charge			2		
Rg	Gate Resistance	f =1MHz		0.9		Ω
Ciss	Input Capacitance	VDS=15V, VGS=0V, f=1MHz		647		pF
Coss	Output Capacitance			61		
Crss	Reverse Transfer Capacitance			48.3		
td(on)	Turn-On Delay Time	VDD=15V, RL =15 Ω ID=1A, VGEN=10V, RG=6 Ω		8.6		ns
tr	Rise Time			12.3		
td(off)	Turn-Off Delay Time			36.3		
tf	Fall Time			5.9		

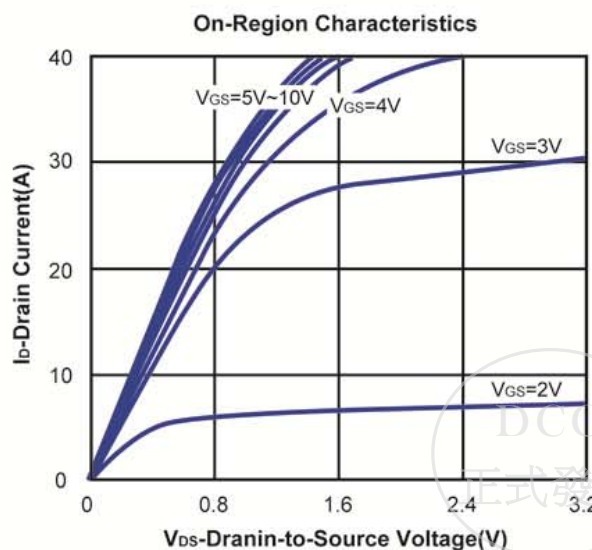
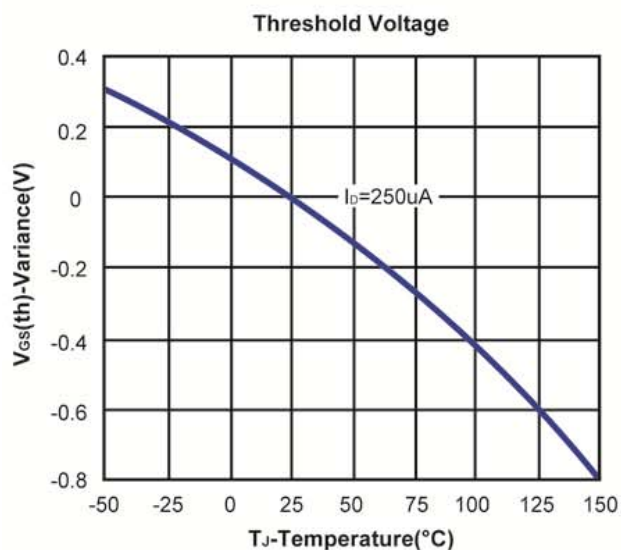
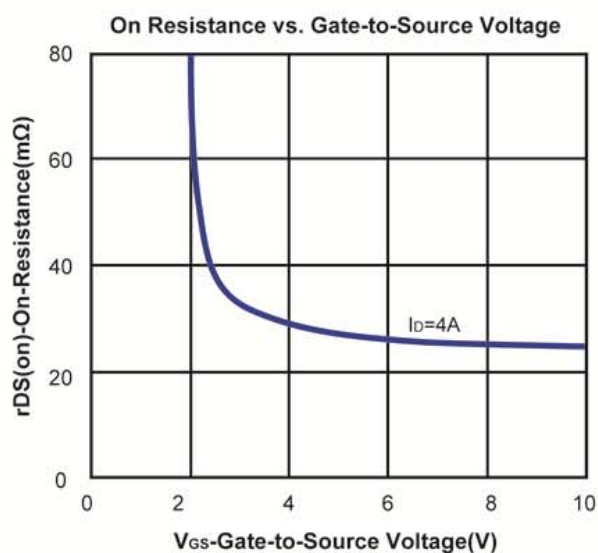
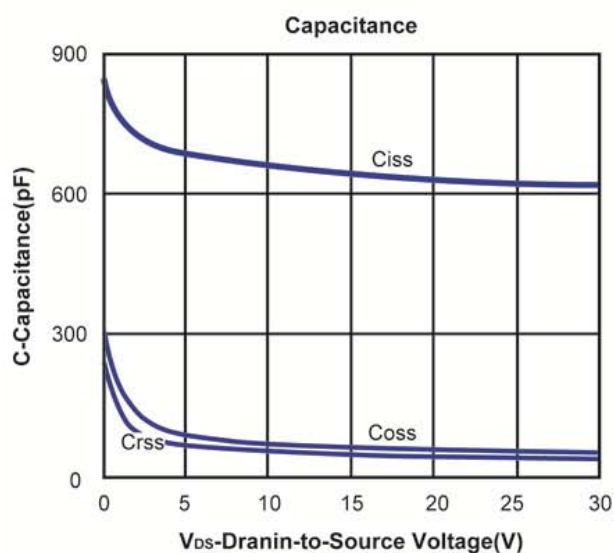
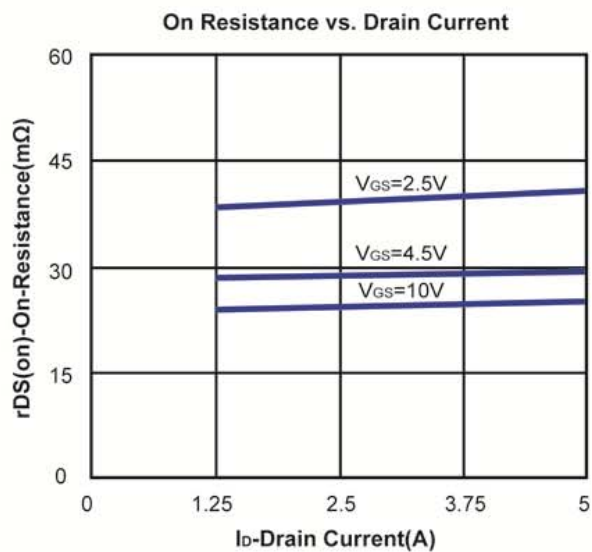
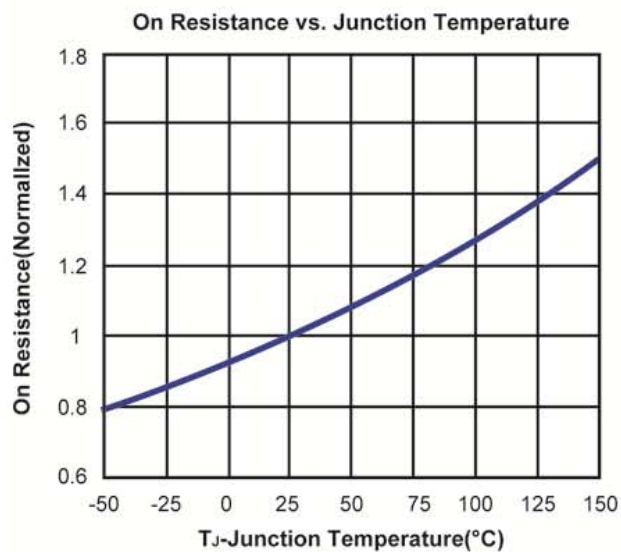
Notes: a. Pulse test; pulse width $\leq$ 380us, duty cycle $\leq$ 2%

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



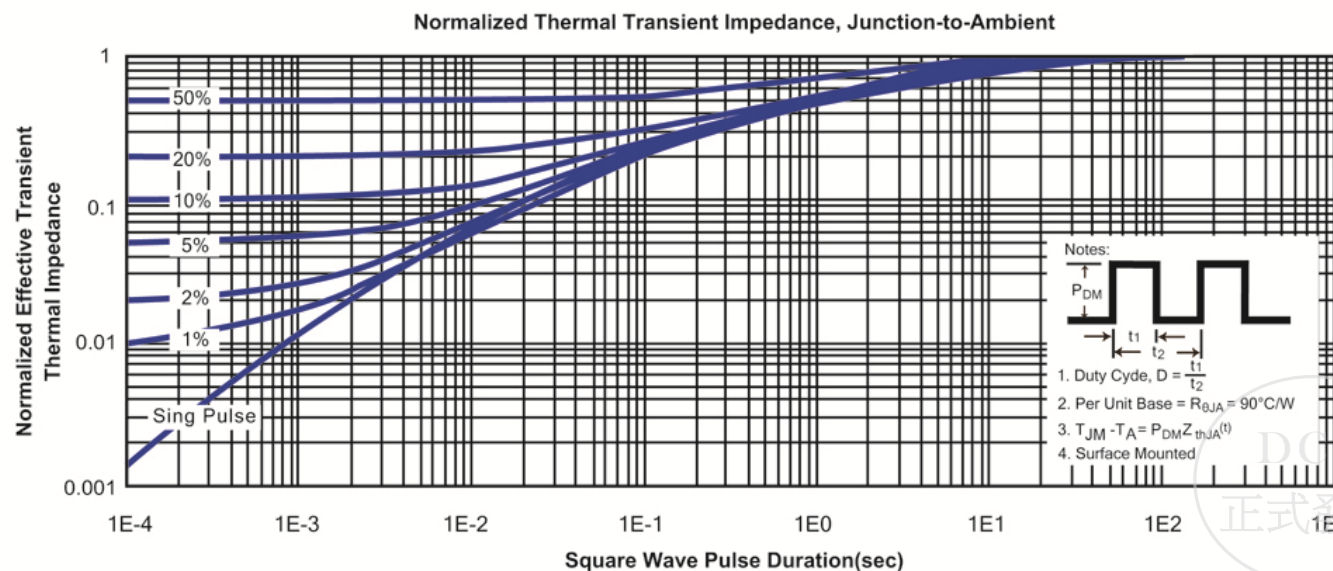
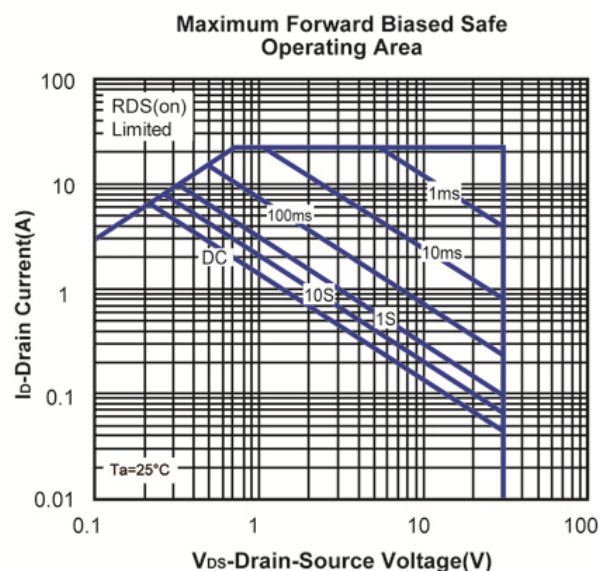
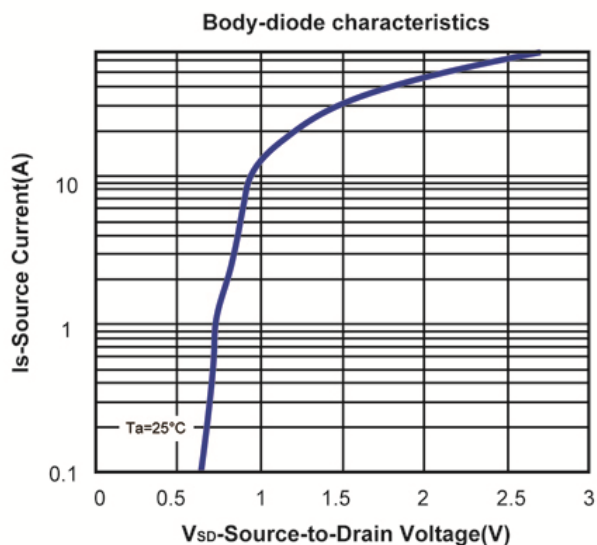
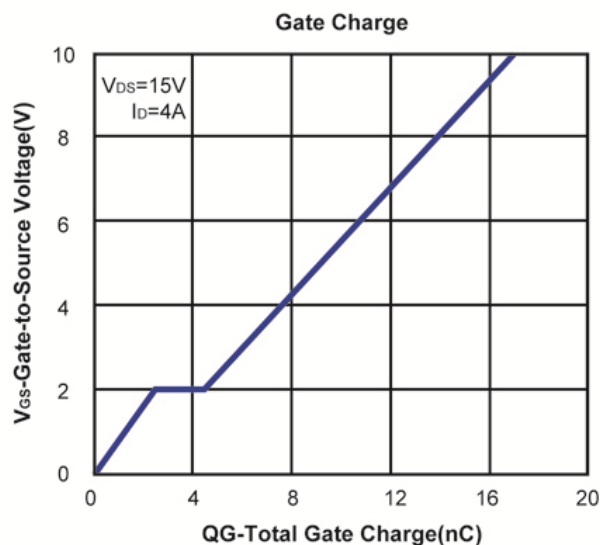
N-Channel 30V (D-S)MOSFET

Typical Characteristics (T_J =25°C Noted)

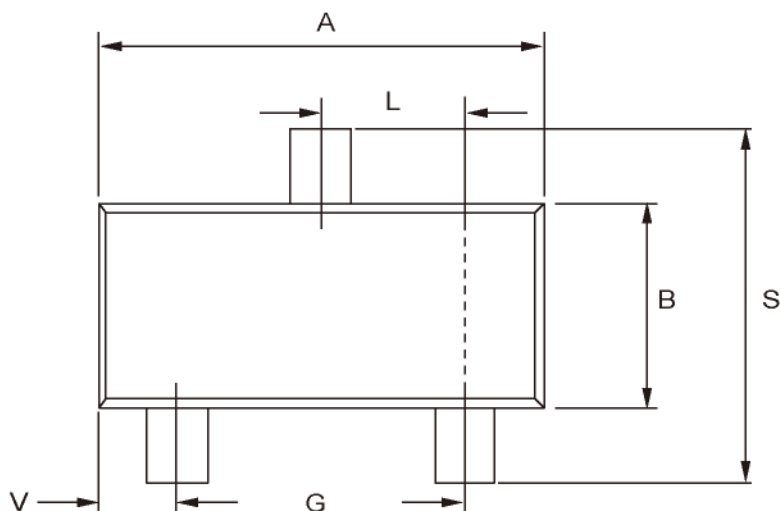


N-Channel 30V (D-S)MOSFET

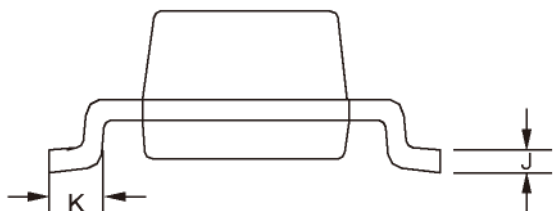
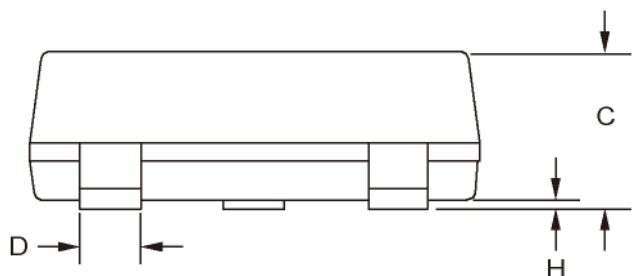
Typical Characteristics (T_J =25°C Noted)



SOT-23 Package Outline



DIM	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



DCC
正式發行