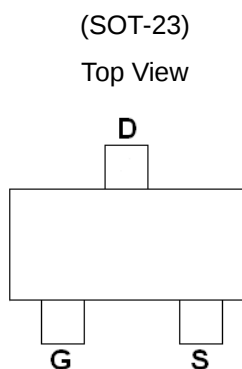


P-Channel 30V (D-S) MOSFET

GENERAL DESCRIPTION

The ME2325 is the P-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.

PIN CONFIGURATION

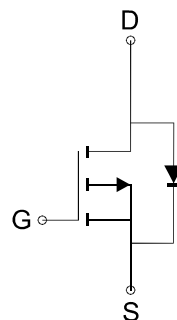


FEATURES

- $R_{DS(ON)} \leq 50m\Omega @ V_{GS} = -10V$
- $R_{DS(ON)} \leq 76m\Omega @ V_{GS} = -4.5V$
- 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
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter



P-Channel MOSFET

Ordering Information: ME2325 (Pb-free)

ME2325 -G (Green product-Halogen free)

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

Parameter		Symbol	Maximum Ratings	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_A = 25^\circ\text{C}$	I_D	-4.3	A
	$T_A = 70^\circ\text{C}$		-3.4	
Pulsed Drain Current		I_{DM}	-17	A
Maximum Power Dissipation	$T_A = 25^\circ\text{C}$	P_D	1.4	W
	$T_A = 70^\circ\text{C}$		0.9	
Storage Temperature Range		T_{stg}	-55 to 150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient*		$R_{\theta JA}$	90	$^\circ\text{C/W}$

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

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P-Channel 30V (D-S) MOSFET

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

Symbol	Parameter	Limit	Min	Typ	Max	Unit
STATIC						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =-250 μA	-30			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =-250 μA	-1		-3	V
I _{GSS}	Gate Leakage Current	V _{DS} =0V, V _{GS} =±20V			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-24V, V _{GS} =0V			-1	μA
R _{DS(ON)}	Drain-Source On-Resistance	V _{GS} =-10V, I _D = -4.1A		38	50	mΩ
		V _{GS} =-4.5V, I _D = -3A		50	76	
V _{SD}	Diode Forward Voltage	I _S =-1A, V _{GS} =0V		-0.77	-1	V
DYNAMIC						
Q _g	Total Gate Charge	V _{DS} =-15V, V _{GS} =-10V, I _D =-4A		17.4		nC
Q _g	Total Gate Charge	V _{DS} =-15V, V _{GS} =-4.5V, I _D =-4A		8.4		
Q _{gs}	Gate-Source Charge			4.2		
Q _{gd}	Gate-Drain Charge			3.3		
R _g	Gate-Resistance	V _{DS} =0V, V _{GS} =0V, F=1MHz		6.8		Ω
C _{iss}	Input Capacitance	V _{DS} =-15V, V _{GS} =0V, f=1MHz		621		pF
C _{oss}	Output Capacitance			91.7		
C _{rss}	Reverse Transfer Capacitance			29		
t _{d(on)}	Turn-On Delay Time	V _{DS} =-15V, R _L =5.2Ω R _{GEN} =3.8Ω, V _{GS} =-10V		55.3		ns
t _r	Turn-On Rise Time			43.2		
t _{d(off)}	Turn-Off Delay Time			38.2		
t _f	Turn-Off Fall Time			6.3		

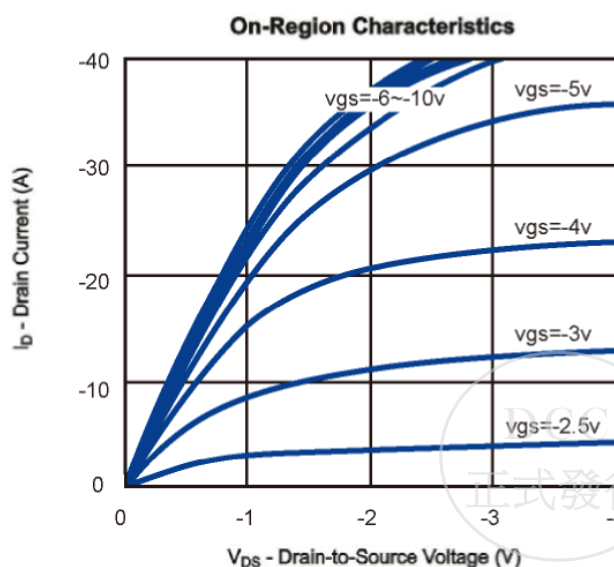
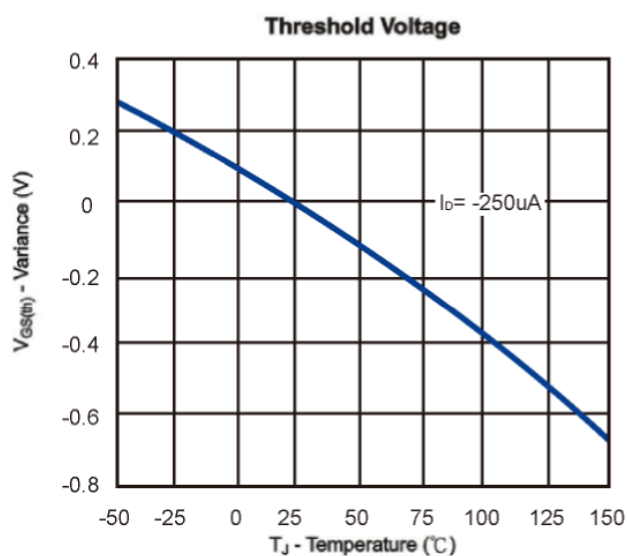
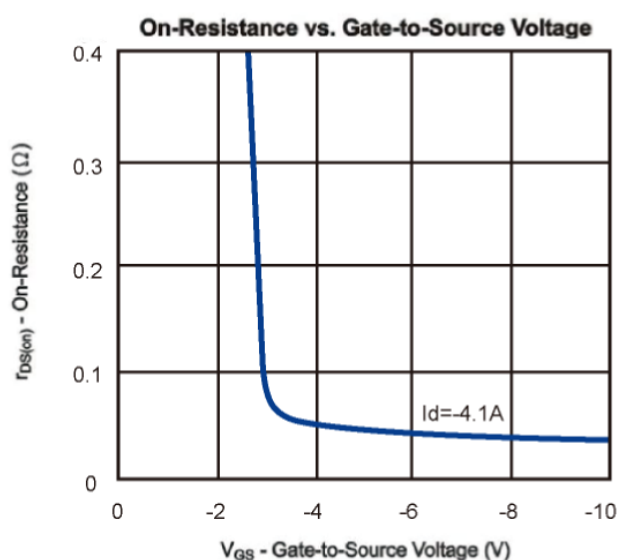
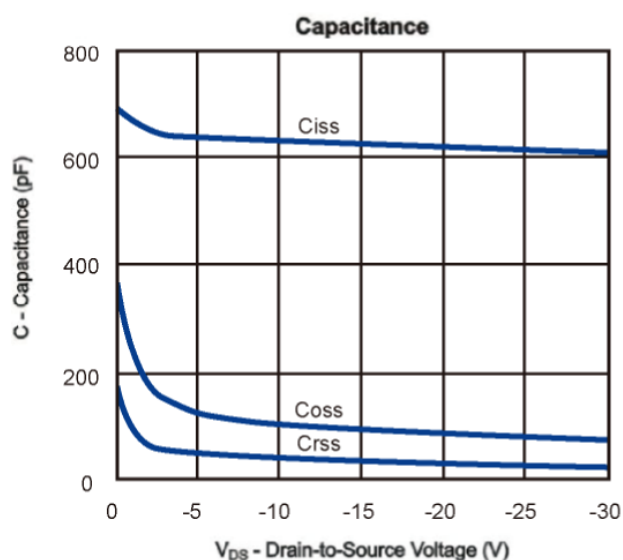
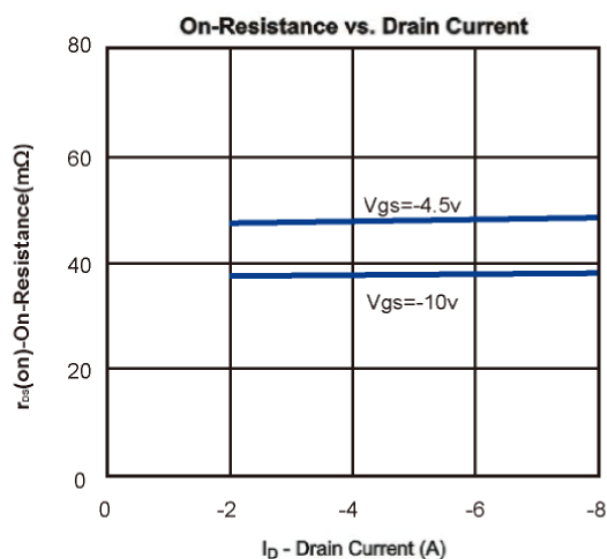
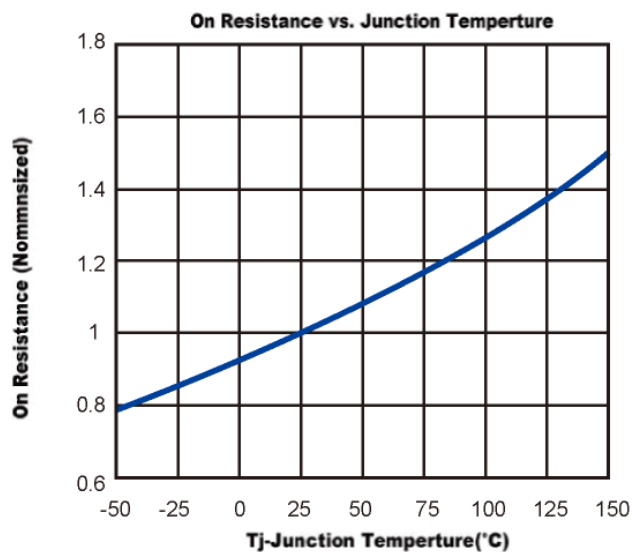
Notes: a. Pulse test; pulse width ≤ 300us, duty cycle ≤ 2%

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



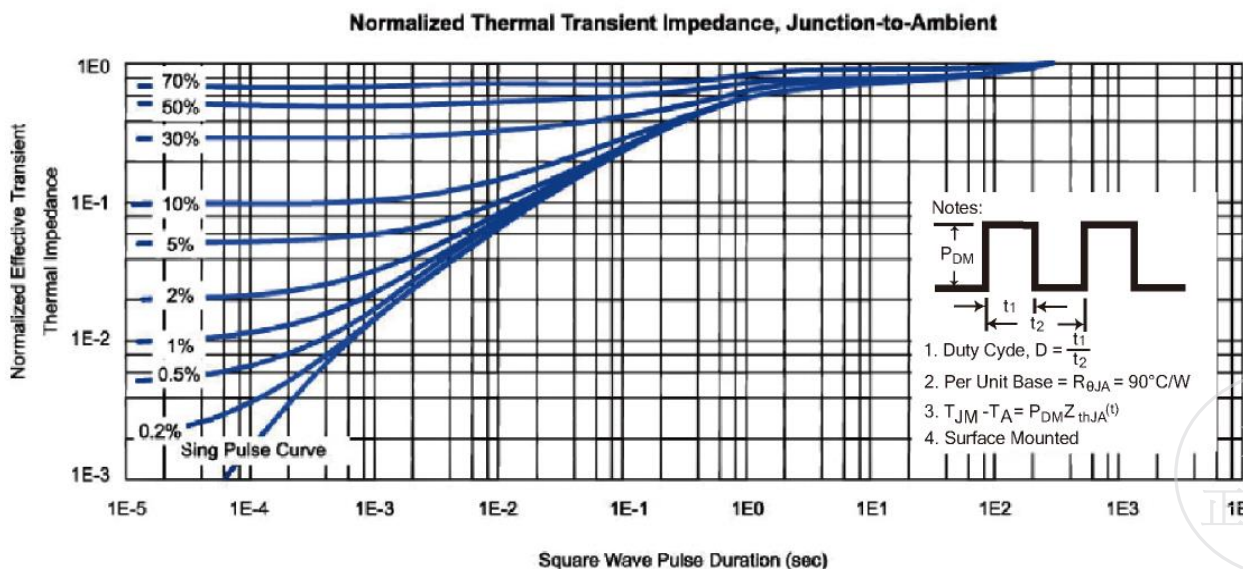
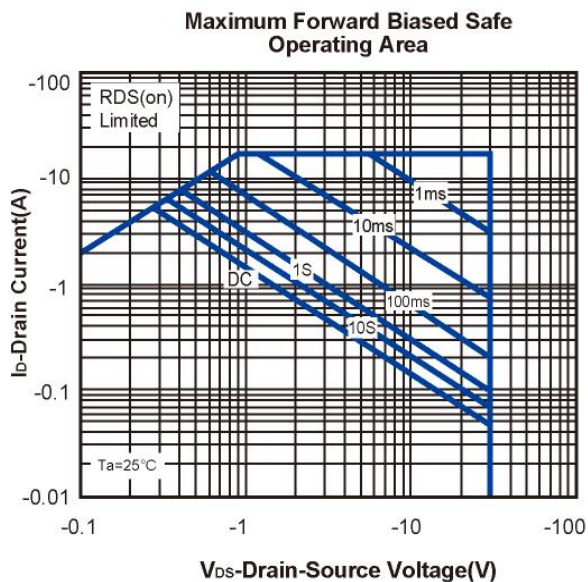
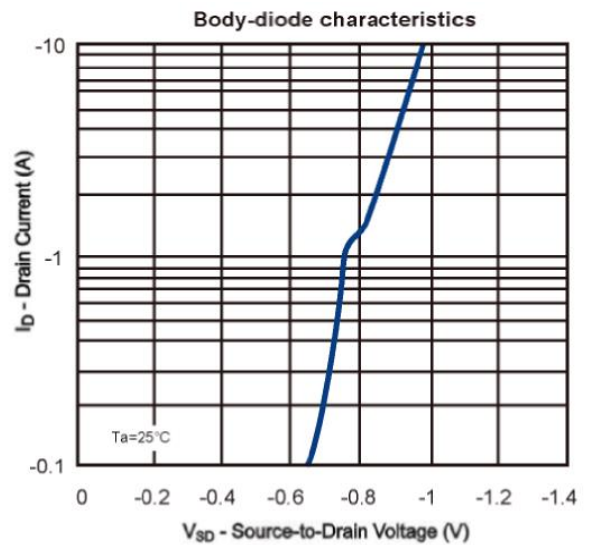
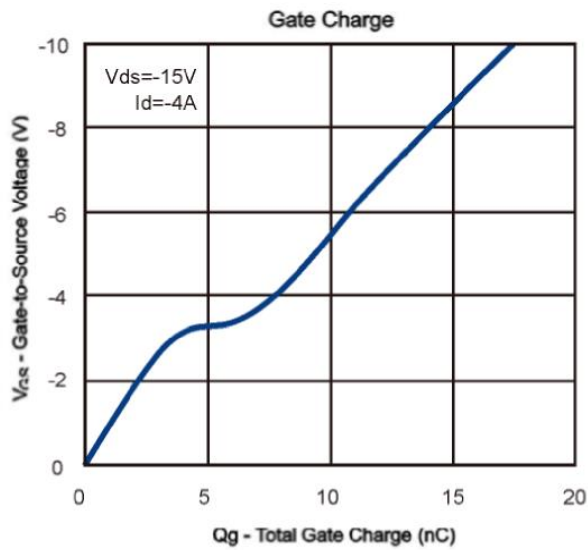
P-Channel 30V (D-S) MOSFET

Typical Characteristics (T_J =25°C Noted)

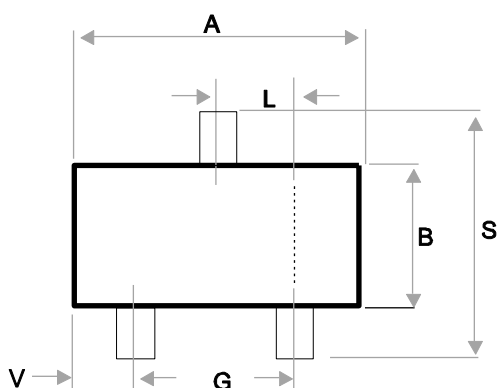


P-Channel 30V (D-S) MOSFET

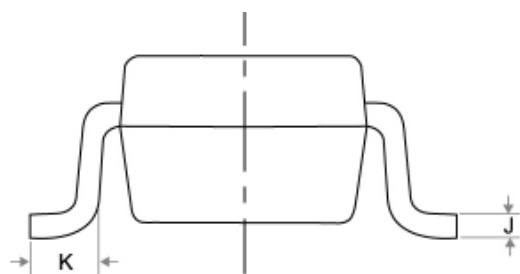
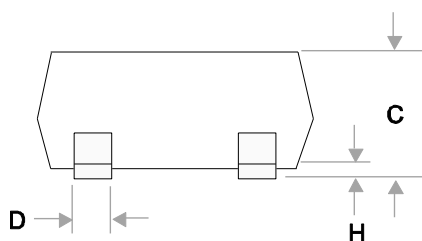
Typical Characteristics ($T_J = 25^\circ\text{C}$ Noted)



SOT-23 Package Outline



Symbol	MILLIMETERS (mm)	
	MIN	MAX
A	2.8	3.05
B	1.5	1.75
C	0.9	1.3
D	0.35	0.5
G	1.8	2
H	0	0.15
J	0.1	0.2
K	0.35	0.6
L	0.85	1.05
S	2.6	3
V	0.375	0.675



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