



Dual P-Channel 30V (D-S) MOSFET

● Features

-30V/-5.3A,RDS(ON)=60mΩ@VGS=-10V

-30V/-4.5A,RDS(ON)=90mΩ@VGS=-4.5V

Super high density cell design for

extremely low RDS(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

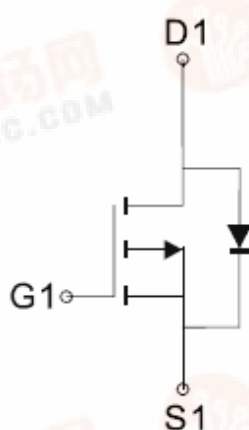
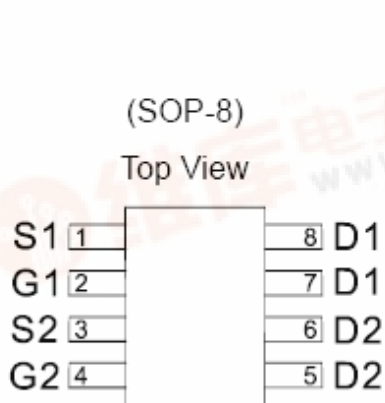
DSC

LCD Display inverter

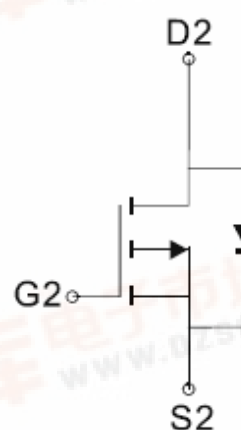
● General Description

The Z4803 is the Dual 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 Configurations



P-Channel MOSFET



P-Channel MOSFET



● **Absolute Maximum Ratings** @ $T_A=25^{\circ}\text{C}$ unless otherwise noted

Parameter	Symbol	Limits	Units
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ($t_j=150$)	I_D	$T_A=25$ -5.3	A
		$T_A=70$ -4.5	
Pulsed Drain Current ⁽¹⁾	I_{DM}	-30	A
Continuous Drain Current (Diode Conduction)	I_S	-1.7	A
Maximum Power Dissipation	P_D	$T_A=25$ 2.0	W
		$T_A=70$ 1.3	
Operating Junction Temperature	T_J	-55 to 150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	
Thermal Resistance- Junction-to-Ambient *	R_{JA}	Steady State 47	W
		75	
Thermal Resistance- Junction-to-Case	R_{JC}	45	

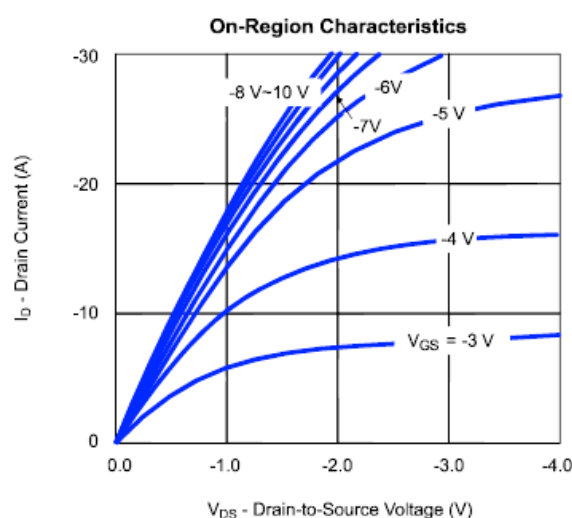
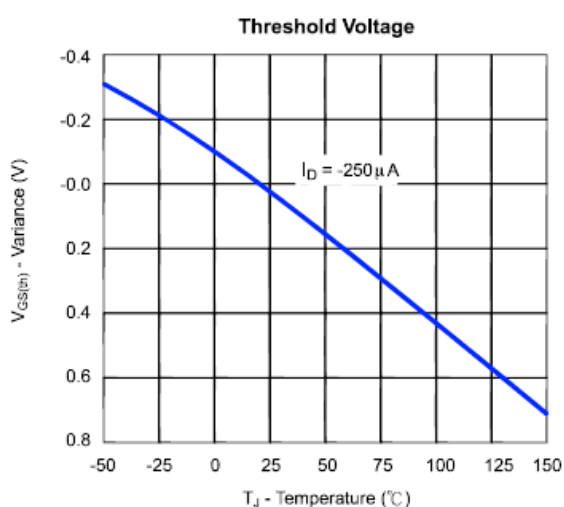
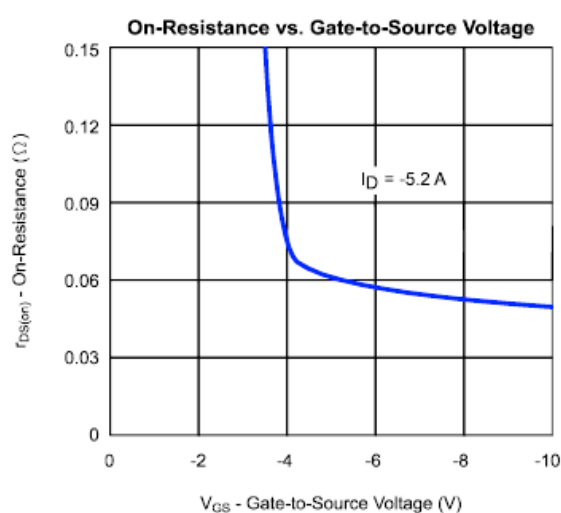
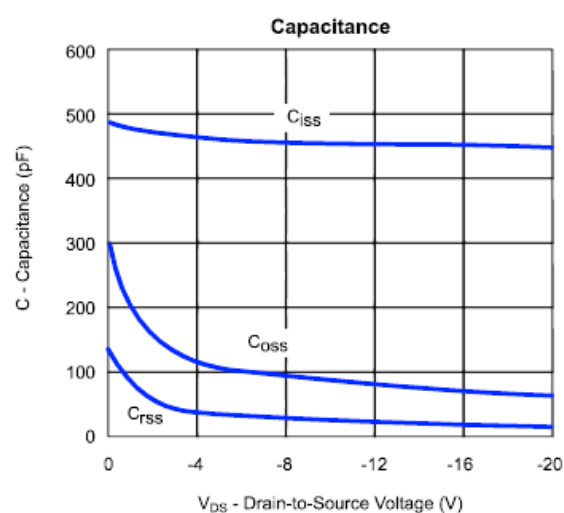
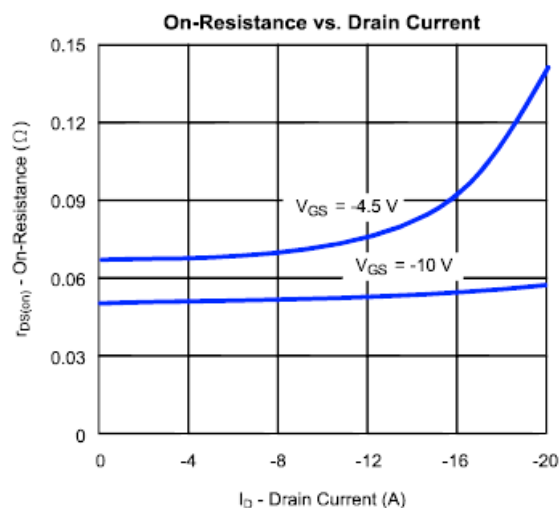
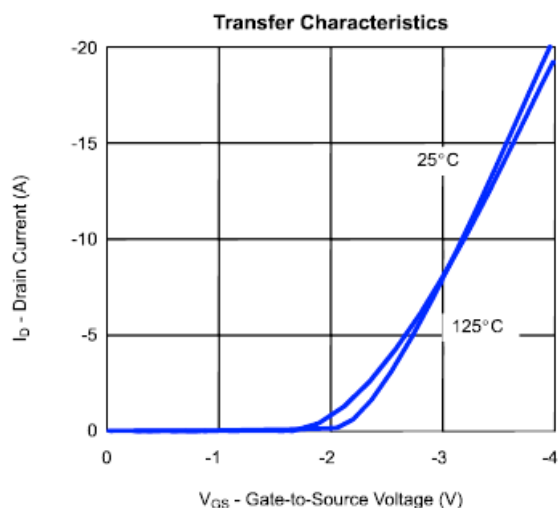
Notes: *The device mounted on 1in2 FR4 board with 2 oz copper

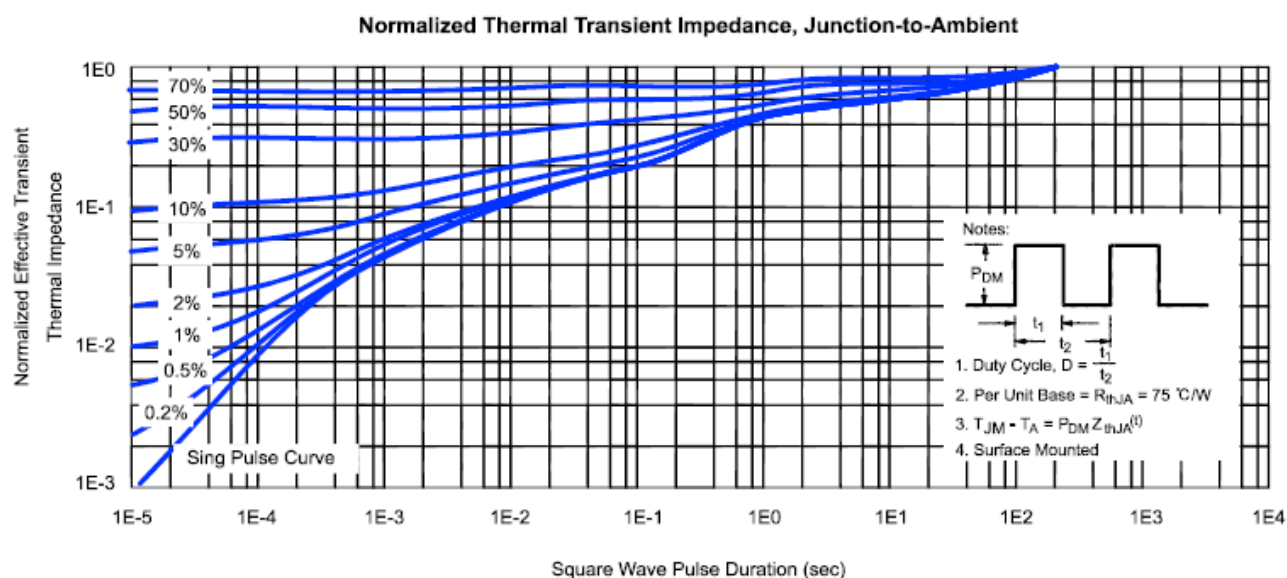
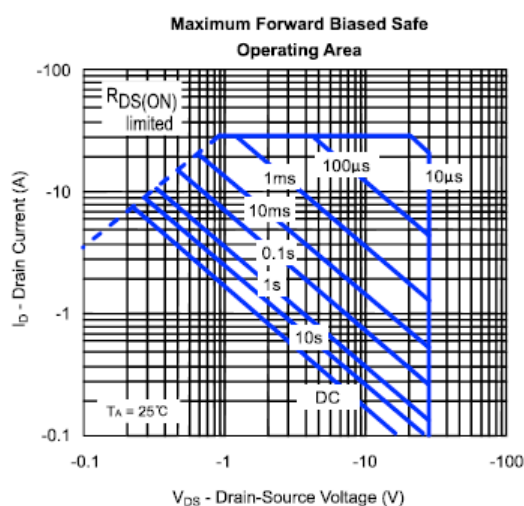
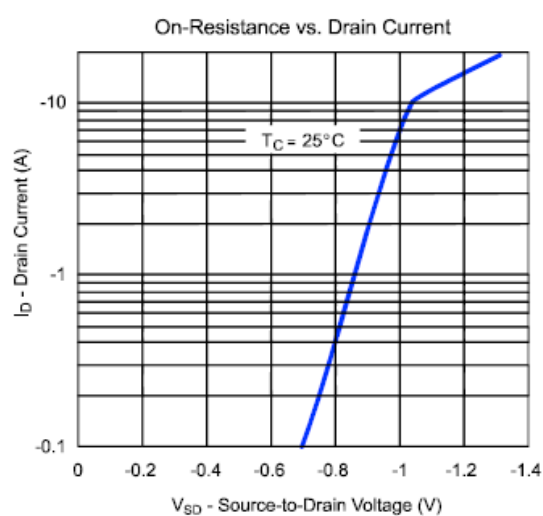
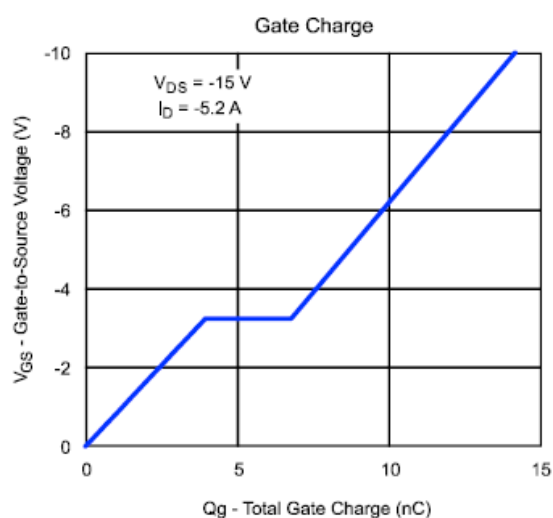
● **Electrical Characteristics** @ $T_A=25^{\circ}\text{C}$ unless otherwise Specified

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Static						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{GS}, I_D=-250\text{ A}$	-1	-1.4	-3	V
I_{GSS}	Gate Leakage Current	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$	-	-	± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=-30\text{V}, V_{GS}=0\text{V}$	-	-	-1	A
		$V_{DS}=-30\text{V}, V_{GS}=0\text{V}, T_J=55$	-	-	-25	
$I_{D(ON)}$	On-State Drain Current	$V_{DS}=-5\text{V}, V_{GS}=-10\text{V}$	-20	-	-	A
$R_{D(ON)}$	Drain-Source On-Resistance	$V_{GS}=-10\text{V}, I_D=-5.3\text{ A}$	-	50	60	MA
		$V_{GS}=-4.5\text{V}, I_D=-4.5\text{ A}$	-	69	90	
V_{SD}	Diode Forward Voltage	$I_S=-1.7\text{A}, V_{GS}=0\text{V}$	-	-0.8	-1.2	V
Dynamic						
R_g	Gate resistance	$V_{DS}=0\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$	-	3.5	-	Ω
C_{iss}	Input capacitance	$V_{DS}=-15\text{V}, V_{GS}=-0\text{V}, f=1\text{MHz}$	-	450	490	pF
C_{oss}	Output Capacitance		-	70	-	
C_{rss}	Reverse Transfer Capacitance		-	20	-	
Q_g	Total Gate Charge	$V_{DS}=-15\text{V}, V_{GS}=-10\text{V}, I_D=-5.3\text{A}$	-	14	17	nC
Q_{gs}	Gate-Source Charge		-	4	-	
Q_{gd}	Gate-Drain Charge		-	3	-	
$t_{D(on)}$	Turn-On Delay Time	$V_{DD}=-15\text{V}, R_L=15\Omega$ $I_D=-1\text{A}, V_{GEN}=-10\text{V}$ $R_G=6\Omega$	-	27	33	ns
t_r	Turn-On Rise Time		-	11	15	
$t_{D(off)}$	Turn-Off Delay Time		-	40	52	
t_f	Turn-Off Fall Time		-	4	6	



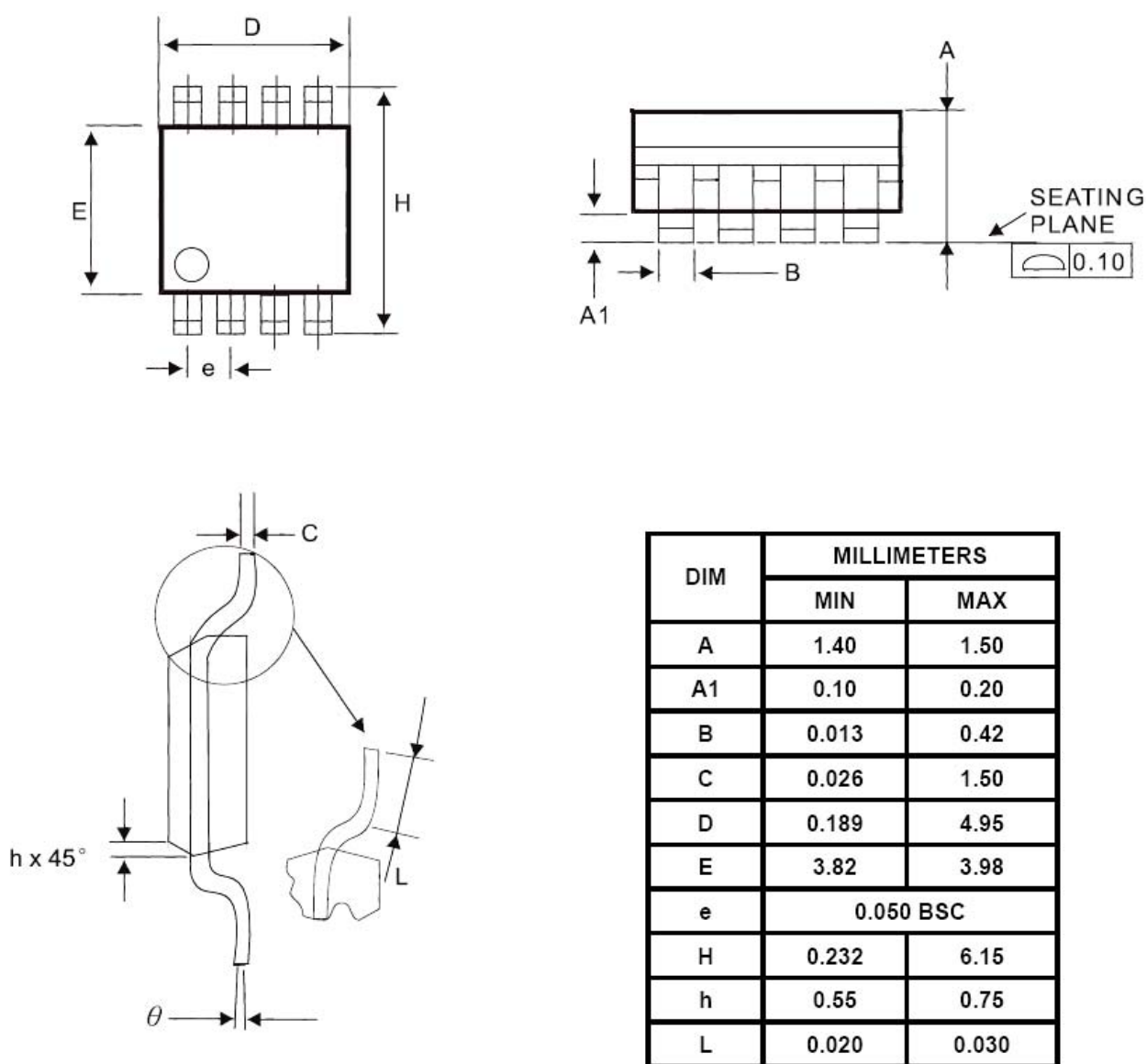
● Typical Performance Characteristics (Tj=25)





● Package Information

SOP-8 Package Outline





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