SPP8803
P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP8803 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 , notebook computer power management and other battery powered circuits where high-side switching .

APPLICATIONS

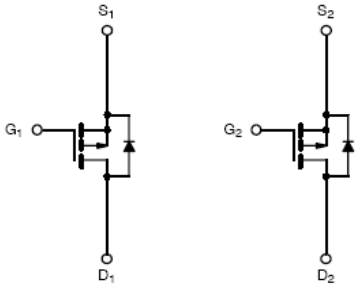
- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

FEATURES

- -20V/-7.0A,$R_{DS(ON)}$= 20mΩ@V_{GS}=-4.5V
- -20V/-6.0 A,$R_{DS(ON)}$= 25mΩ@V_{GS}=-2.5V
- -20V/-5.0 A,$R_{DS(ON)}$= 35mΩ@V_{GS}=-1.8V
- Super high density cell design for extremely low $R_{DS\ (ON)}$
- Exceptional on-resistance and maximum DC current capability
- TSSOP-8P package design

PIN CONFIGURATION(TSSOP – 8P)





PART MARKING



SPP8803
P-Channel Enhancement Mode MOSFET

PIN DESCRIPTION

Pin	Symbol	Description
1	D1	Drain
2	S1	Source
3	S1	Source
4	G1	Gate
5	G2	Gate
6	S2	Source
7	S2	Source
8	D2	Drain

ORDERING INFORMATION

Part Number	Package	Part Marking
SPP8803TS8RG	TSSOP- 8P	8803
SPP8803TS8TG	TSSOP- 8P	8803

※ SPP8803TS8RG : 13" Tape Reel ; Pb – Free
※ SPP8803TS8TG : Tube ; Pb – Free

ABSOULTE MAXIMUM RATINGS

(T_A=25℃ Unless otherwise noted)

Parameter		Symbol	Typical	Unit
Drain-Source Voltage		V_{DSS}	-20	V
Gate –Source Voltage		V_{GSS}	±12	V
Continuous Drain Current(T_J=150℃)	T_A=25℃	I_D	-7.0	A
	T_A=70℃		-5.8	
Pulsed Drain Current		I_{DM}	-30	A
Continuous Source Current(Diode Conduction)		I_S	-2.3	A
Power Dissipation	T_A=25℃	P_D	1.5	W
	T_A=70℃		0.9	
Operating Junction Temperature		T_J	-55/150	℃
Storage Temperature Range		T_{STG}	-55/150	℃
Thermal Resistance-Junction to Ambient		$R_{\theta JA}$	80	℃/W

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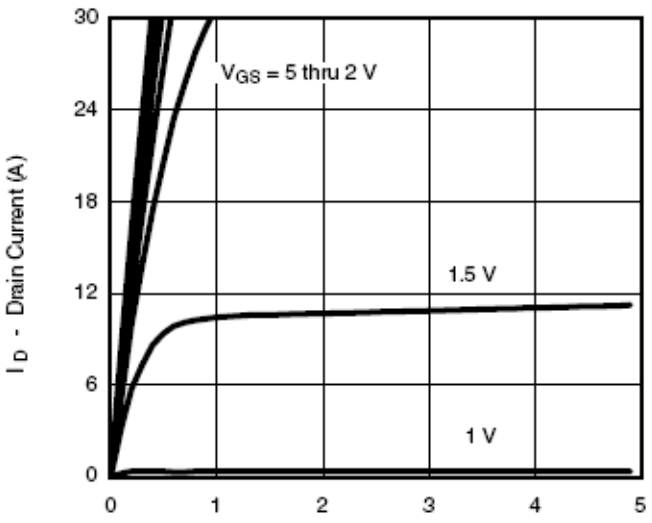
P-Channel Enhancement Mode MOSFET

ELECTRICAL CHARACTERISTICS

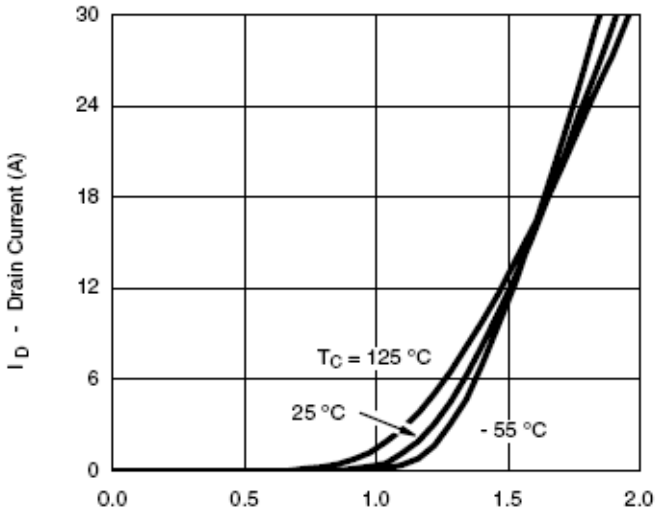
(T_A=25℃ Unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=-250uA	-20			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=-250uA	-0.35		-0.9	
Gate Leakage Current	I_{GSS}	V_{DS}=0V,V_{GS}=±12V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-16V,V_{GS}=0V			-1	uA
		V_{DS}=-20V,V_{GS}=0V T_J=55℃			-10	
On-State Drain Current	$I_{D(on)}$	V_{DS}≦-5V,V_{GS}=-4.5V	-20			A
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=- 4.5V,I_D=-7.0A		0.016	0.020	Ω
		V_{GS}=- 2.5V,I_D=-6.0A		0.020	0.025	
		V_{GS}=- 1.8V,I_D=-5.0A		0.028	0.035	
Forward Transconductance	gfs	V_{DS}=-5.0V,I_D=-10.0A		36		S
Diode Forward Voltage	V_{SD}	I_S=-2.5A,V_{GS}=0V		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q_g	V_{DS}=-10V,V_{GS}=-5.0V I_D≡-10.0A		30	45	nC
Gate-Source Charge	Q_{gs}			4.5		
Gate-Drain Charge	Q_{gd}			8.0		
Input Capacitance	C_{iss}	V_{DS}=-10V,V_{GS}=0V f=1MHz		2670		pF
Output Capacitance	C_{oss}			520		
Reverse Transfer Capacitance	C_{rss}			480		
Turn-On Time	$t_{d(on)}$	V_{DD}=-10V,R_L=15Ω I_D≡-1.0A,V_{GEN}=-4.5V R_G=6Ω		25	40	ns
	t_r			45	70	
Turn-Off Time	$t_{d(off)}$			145	240	
	t_f			70	115	

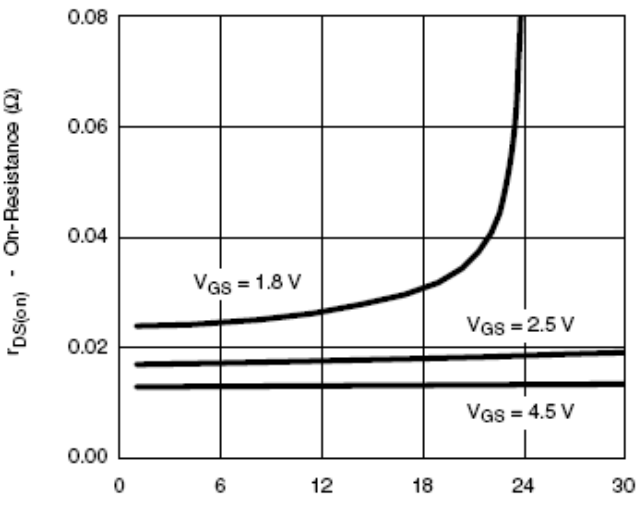
TYPICAL CHARACTERISTICS



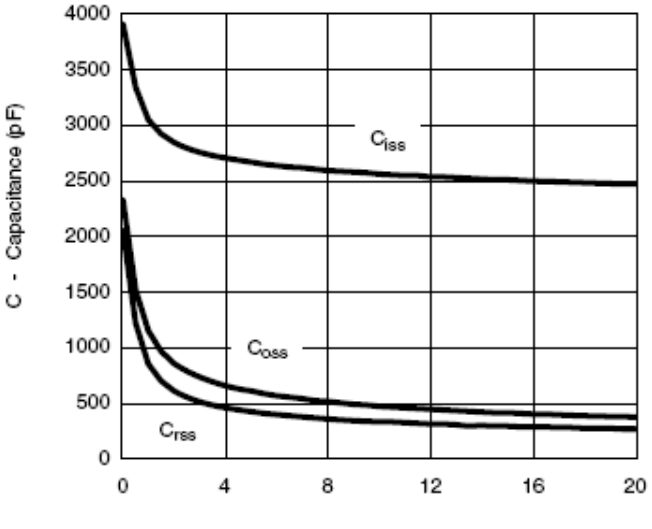
Output Characteristics



Transfer Characteristics

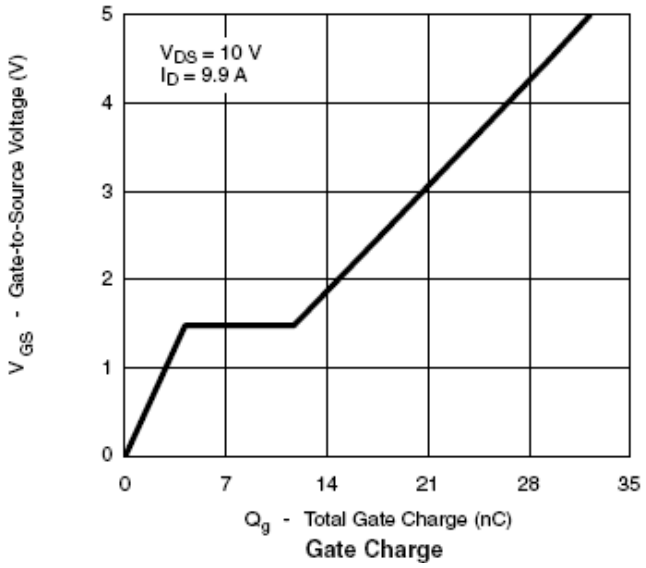


On-Resistance vs. Drain Current

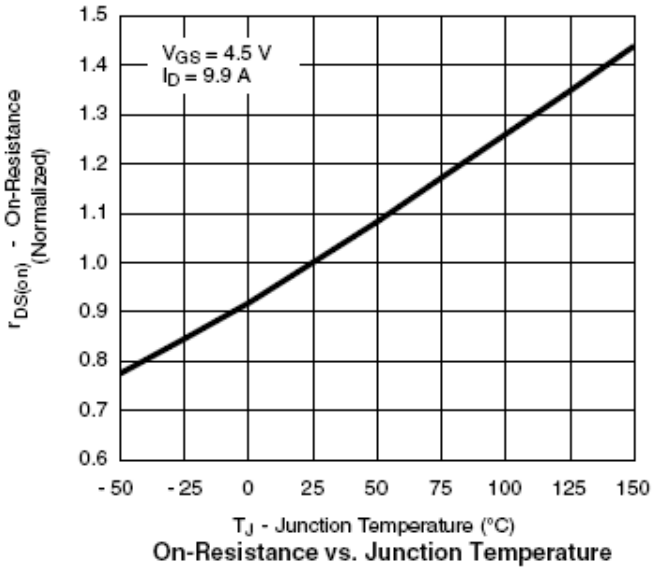


Capacitance

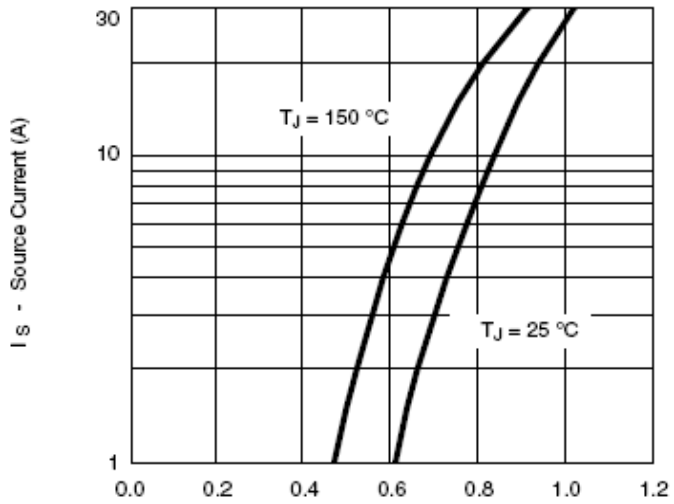
TYPICAL CHARACTERISTICS



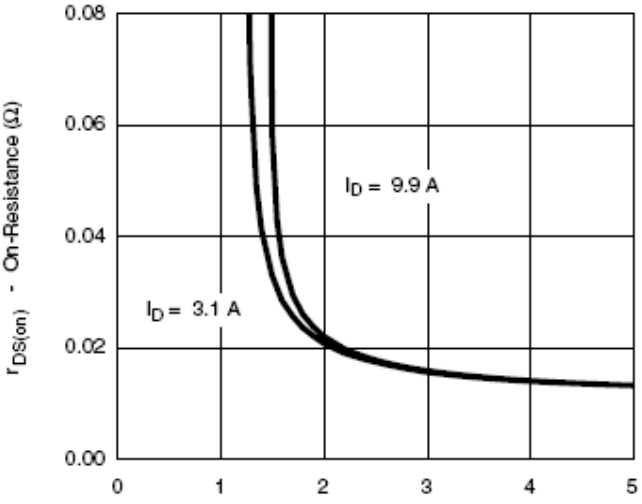
Gate Charge



On-Resistance vs. Junction Temperature

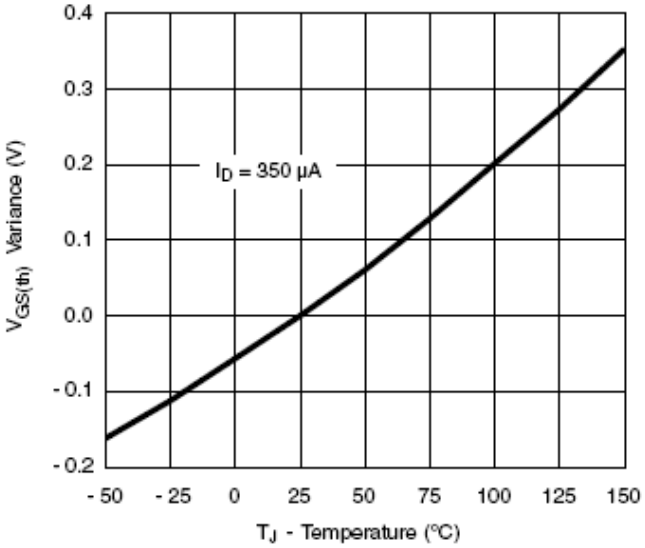


Source-Drain Diode Forward Voltage

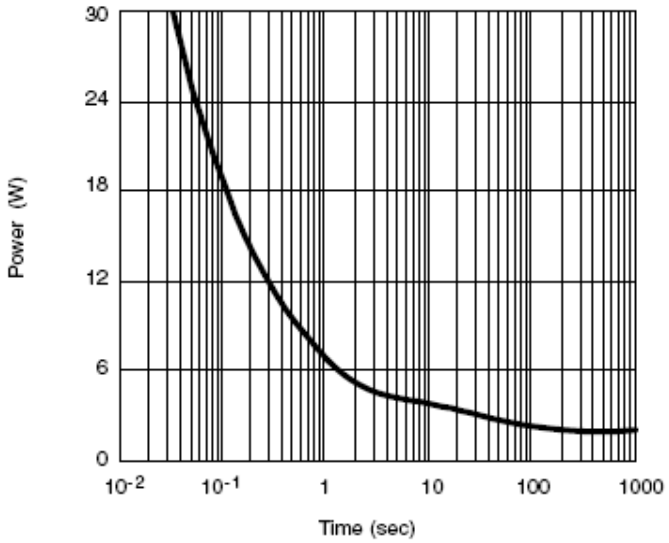


On-Resistance vs. Gate-to-Source Voltage

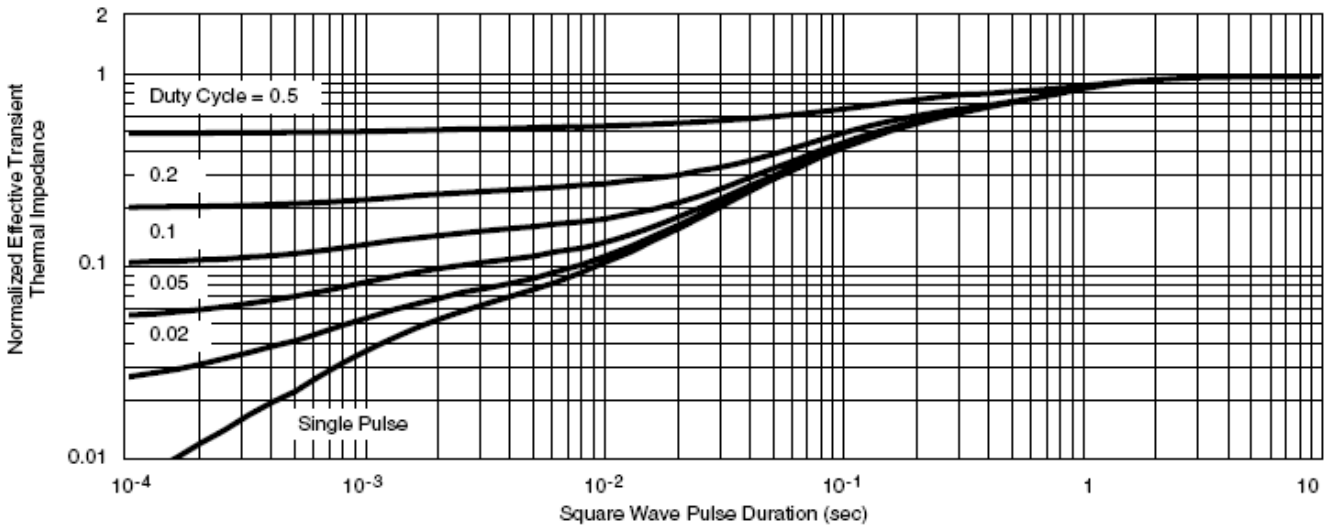
TYPICAL CHARACTERISTICS



Threshold Voltage

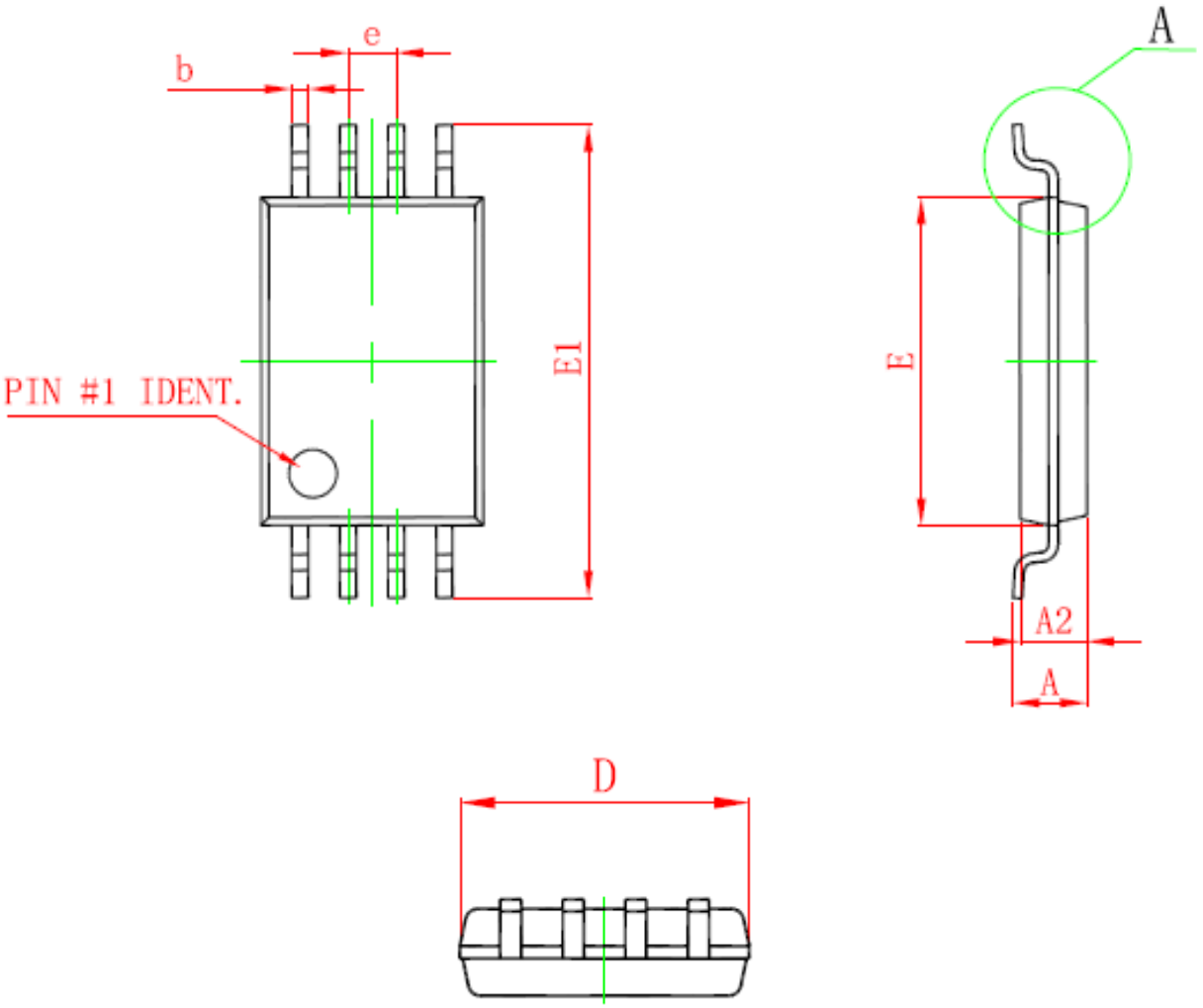


Single Pulse Power, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Foot

TSSOP- 8P PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
D	2.900	3.100	0.114	0.122
E	4.300	4.500	0.169	0.177
b	0.190	0.300	0.007	0.012
c	0.090	0.200	0.004	0.008
E1	6.250	6.550	0.246	0.258
A		1.100		0.043
A2	0.800	1.000	0.031	0.039
A1	0.020	0.150	0.001	0.006
e	0.65 (BSC)		0.026 (BSC)	
L	0.500	0.700	0.020	0.028
H	0.25 (TYP)		0.01 (TYP)	
θ	1°	7°	1°	7°

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SYNC Power Corporation
9F-5, No.3-2, Park Street
NanKang District (NKSP), Taipei, Taiwan 115
Phone: 886-2-2655-8178
Fax: 886-2-2655-8468
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