SPP8627
P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP8627 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 , notebook computer power management and other battery powered circuits where high-side switching .

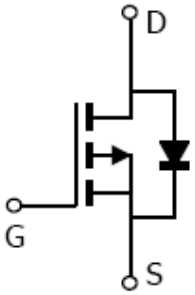
FEATURES

- -20V/-7.0A,$R_{DS(ON)}$=22mΩ@V_{GS}=-4.5V
- -20V/-6.0 A,$R_{DS(ON)}$=28mΩ@V_{GS}=-2.5V
- Super high density cell design for extremely Low $R_{DS\ (ON)}$
- Exceptional on-resistance and maximum DC current capability
- PPAK3x3-8L package design

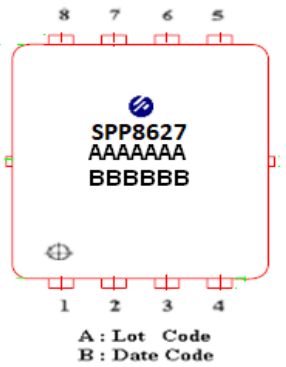
APPLICATIONS

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

PIN CONFIGURATION(PPAK3x3-8L)



PART MARKING



SPP8627
P-Channel Enhancement Mode MOSFET

PPAK3x3-8L PIN DESCRIPTION

Pin	Symbol	Description
1	S	Source
2	S	Source
3	S	Source
4	G	Gate
5	D	Drain
6	D	Drain
7	D	Drain
8	D	Drain

ORDERING INFORMATION

Part Number	Package	Part Marking
SPP8627DN8RGB	PPAK3x3-8L	SPP8627

※ SPP8627DN8RGB : Tape Reel ; Pb – Free ; Halogen - Free

ABSOULTE MAXIMUM RATINGS

(T_A=25℃ Unless otherwise noted)

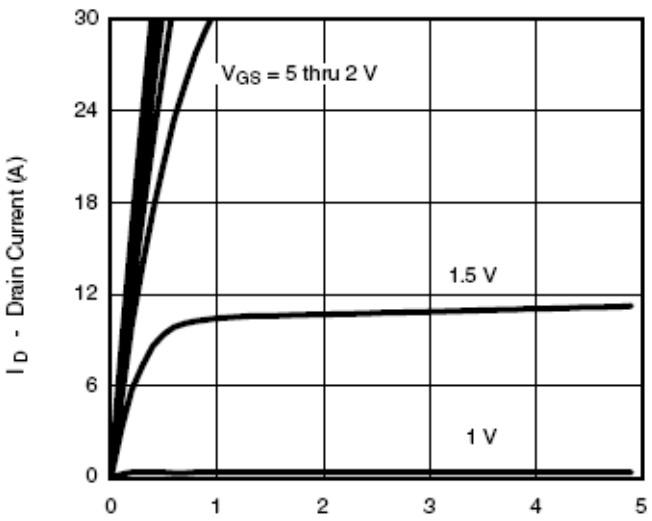
Parameter		Symbol	Typical	Unit
Drain-Source Voltage		V_{DSS}	-20	V
Gate –Source Voltage		V_{GSS}	±12	V
Continuous Drain Current(T_J=150℃)	T_A=25℃	I_D	-7.0	A
	T_A=70℃		-5.8	
Pulsed Drain Current		I_{DM}	-30	A
Continuous Source Current(Diode Conduction)		I_S	-2.3	A
Power Dissipation	T_A=25℃	P_D	1.5	W
	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

SPP8627
P-Channel Enhancement Mode MOSFET

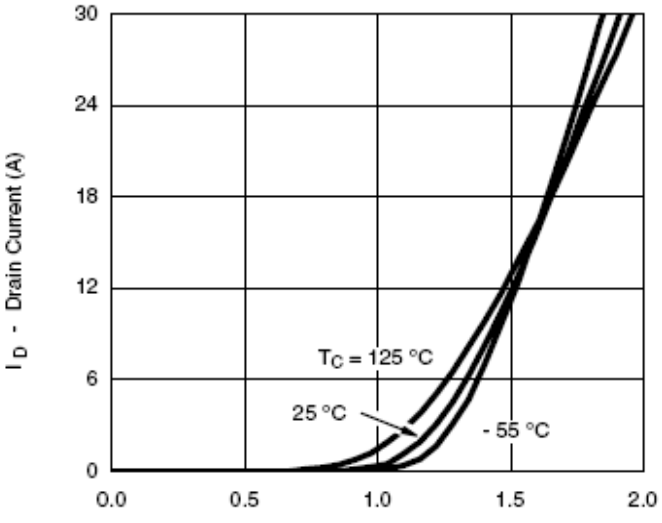
ELECTRICAL CHARACTERISTICS
(T_A=25℃ Unless otherwise noted)

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}=-16V,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		0.020	0.022	Ω
		V_{GS}=-2.5V,I_D=-6.0A		0.025	0.028	
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	

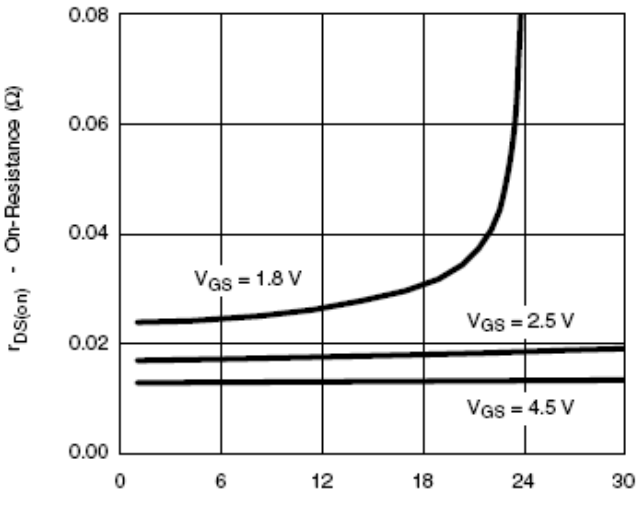
TYPICAL CHARACTERISTICS



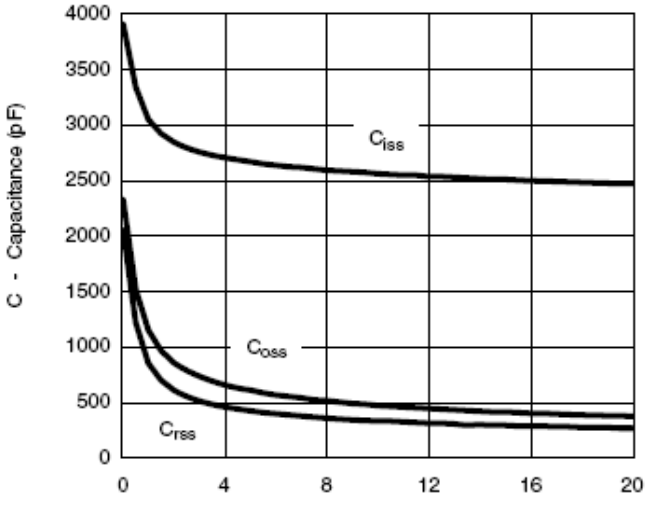
Output Characteristics



Transfer Characteristics

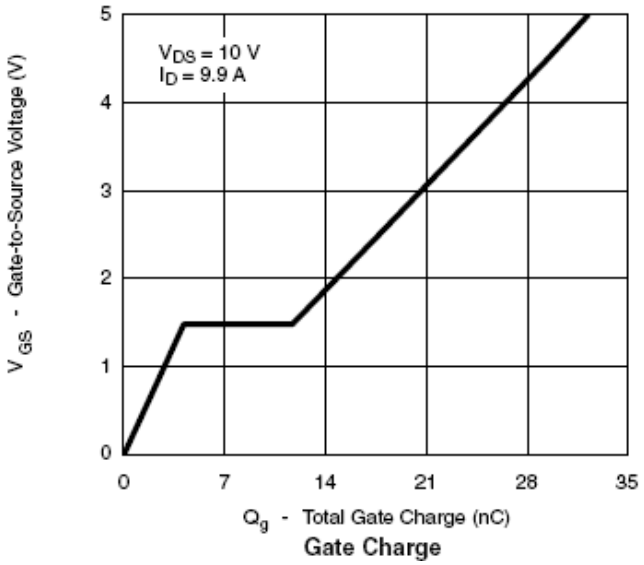


On-Resistance vs. Drain Current

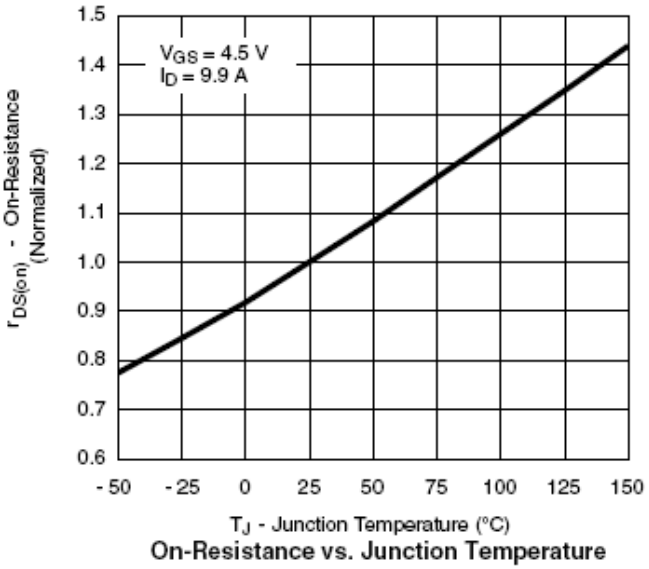


Capacitance

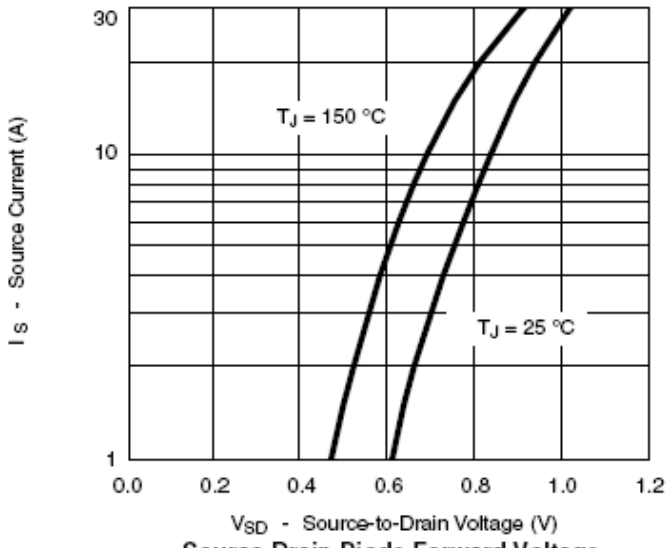
TYPICAL CHARACTERISTICS



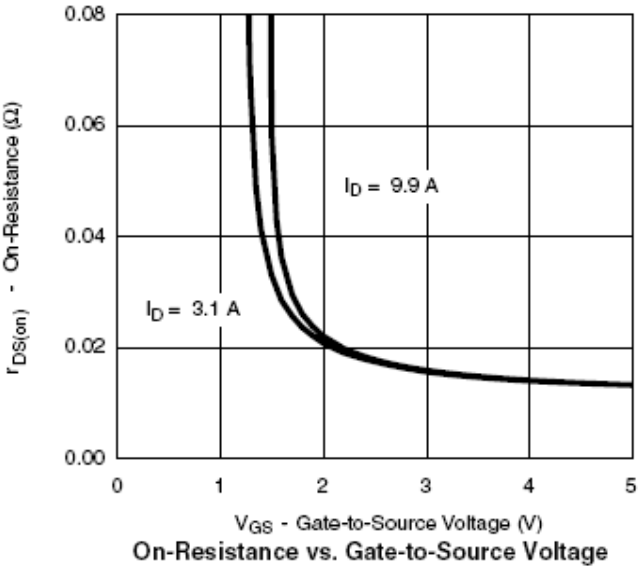
Gate Charge



On-Resistance vs. Junction Temperature

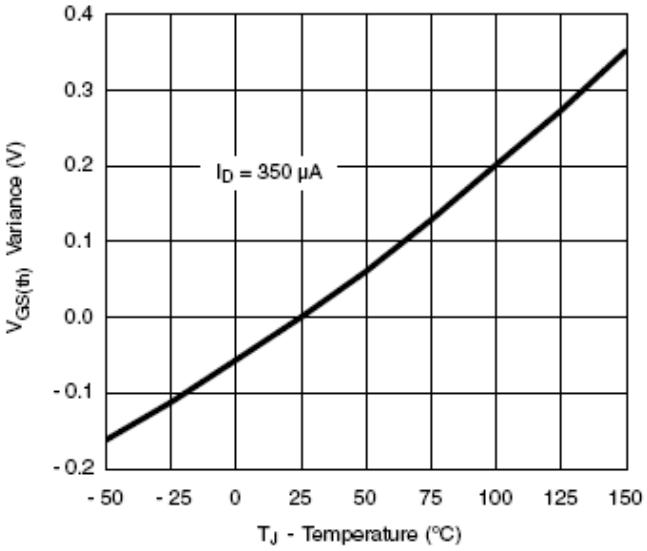


Source-Drain Diode Forward Voltage

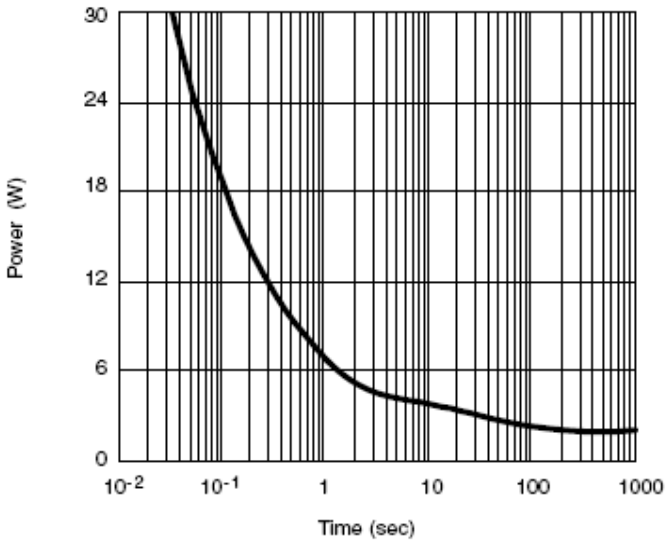


On-Resistance vs. Gate-to-Source Voltage

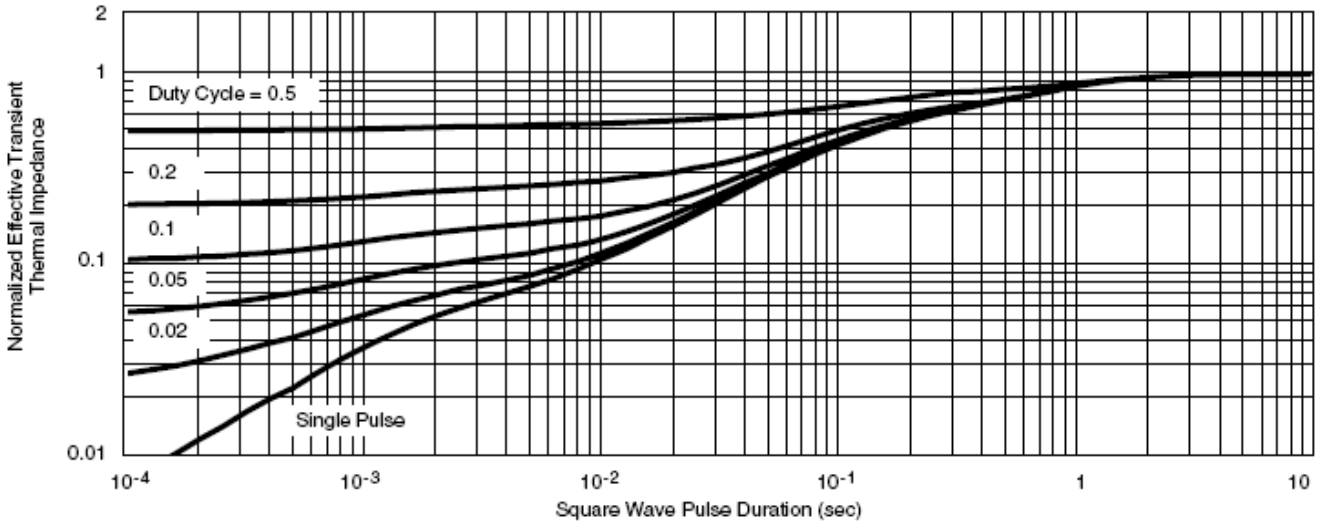
TYPICAL CHARACTERISTICS



Threshold Voltage



Single Pulse Power, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Foot

SYNC Power Corporation
7F-2, No.3-1, Park Street
NanKang District (NKSP), Taipei, Taiwan 115
Phone: 886-2-2655-8178
Fax: 886-2-2655-8468
© http://www.syncpower.com