SPP4435W P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP4435W 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.

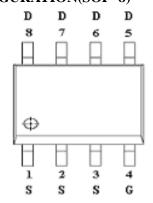
APPLICATIONS

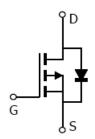
- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

FEATURES

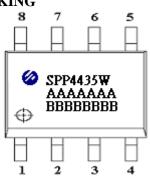
- -30V/-9.2A, RDS(ON)= $24m\Omega$ @VGS=-10V
- \bullet -30V/-7.0A,RDS(ON)=30m Ω @VGS=-4.5V
- ◆ Super high density cell design for extremely low RDS (ON)
- Exceptional on-resistance and maximum DC current capability
- ◆ SOP-8 package design

PIN CONFIGURATION(SOP-8)





PART MARKING



A: Lot Code B: Date Code

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
SPP4435WS8RGB	SOP-8	SPP4435W

[※] SPP4435WS8RGB: 13"Tape Reel; Pb − Free; Halogen − Free

ABSOULTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

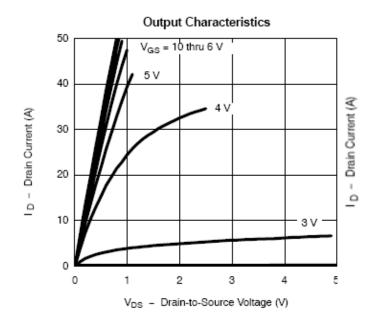
Parameter		Symbol	Typical	Unit	
Drain-Source Voltage		Vdss	-30	V	
Gate –Source Voltage		VGSS	±20	V	
Continuous Dusin Cumant/Ty-1509C)	Ta=25°C	In	-10.0	A	
Continuous Drain Current(T _J =150°C)	Ta=70°C	- Id	-7.0	A	
Pulsed Drain Current		IDМ	-50	A	
Continuous Source Current(Diode Conduction)		Is	-2.3	A	
Daniel Direitaria	Ta=25°C	PD	2.8	***	
Power Dissipation	Ta=70°C		1.8	W	
Operating Junction Temperature		TJ	-55/150	°C	
Storage Temperature Range		Tstg	-55/150	°C	
Thermal Resistance-Junction to Ambient		RθJA	70	°C/W	

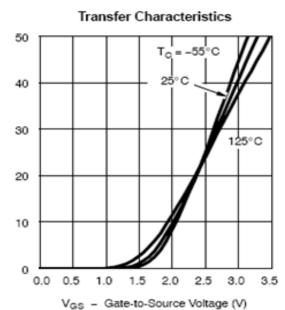
ELECTRICAL CHARACTERISTICS

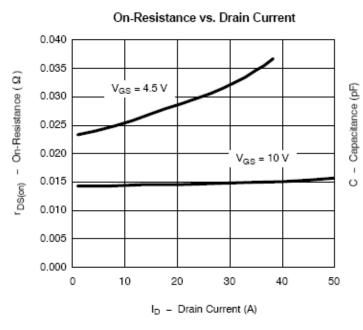
(Ta=25°C Unless otherwise noted)

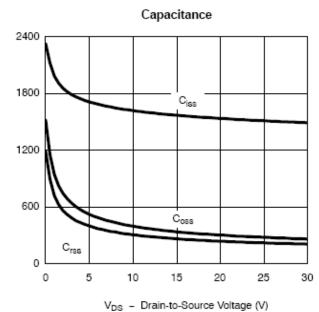
Parameter	Symbol	Conditions	Min.	Тур	Max.	Unit	
Static	l .	1	1		ı		
Drain-Source Breakdown Voltage	V(BR)DSS	VGS=0V,ID=-250uA	-30			V	
Gate Threshold Voltage	VGS(th)	VDS=VGS,ID=-250uA	-0.7		-1.6	7 V	
Gate Leakage Current	Igss	VDS=0V,VGS=±20V			±100	nA	
Zero Gate Voltage Drain Current		VDS=-24V,VGS=0V			-1	uA	
	Idss	Vds=-24V,Vgs=0V Tj=55°C			-5		
On-State Drain Current	ID(on)	V_{DS} = -5 V , V_{GS} =-4.5 V	-40			A	
Drain-Source On-Resistance	RDS(on)	Vgs=-10V,ID=-9.2A		0.020	0.024	Ω	
Drain-Source On-Resistance	KDS(0II)	Vgs=-4.5V,Id=-7.0A		0.025	0.030	3.2	
Forward Transconductance	gfs	VDS=-10V,ID=-9.0A		24		S	
Diode Forward Voltage	Vsd	Is=-2.3A,VGS =0V		-0.8	-1.2	V	
Dynamic							
Total Gate Charge	Qg	V _{DS} =-15V,V _{GS} =-10V -I _D = -9.0A		20	30	nC	
Gate-Source Charge	Qgs			3.5			
Gate-Drain Charge	Qgd			4.8			
Input Capacitance	Ciss	V _{DS} =-15V,V _{GS} =0V -f=1MHz		1850		pF	
Output Capacitance	Coss			450			
Reverse Transfer Capacitance	Crss			335			
Turn-On Time	td(on)	V _{DD} =-15V,R _L =15Ω		20	30	nS	
	tr			20	30		
Turn-Off Time	td(off)	ID=-1.0A,VGEN=-10V RG=6Ω		75	110		
	tf			40	80		

TYPICAL CHARACTERISTICS

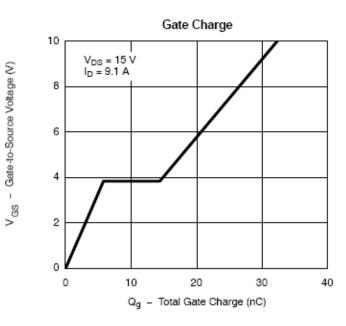


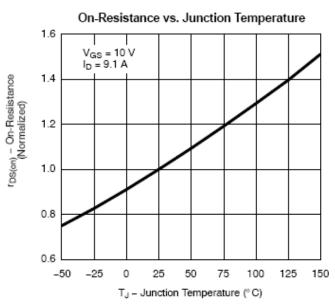


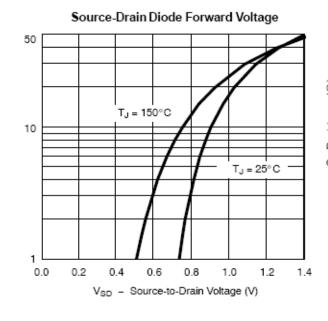




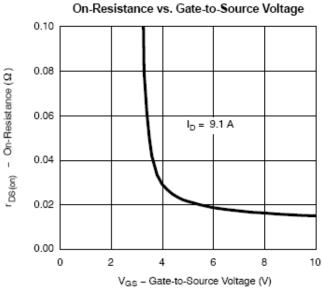
TYPICAL CHARACTERISTICS



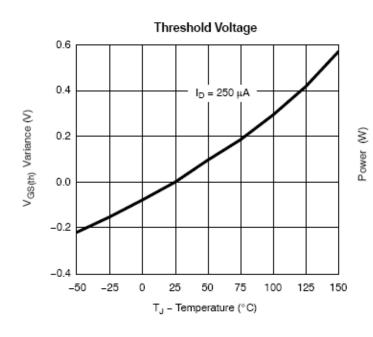


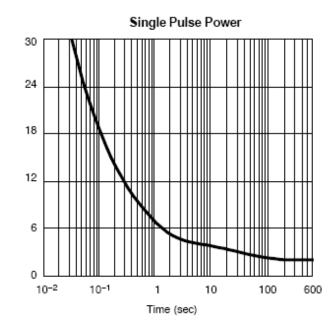


Is - Source Current (A)



TYPICAL CHARACTERISTICS





Normalized Thermal Transient Impedance, Junction-to-Foot 2 1 Duty Cycle = 0.5 0.1 0.05 0.05 Single Pulse 0.01 10-4 10-3 10-2 10-1 1 10

Square Wave Pulse Duration (sec)

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SYNC Power Corporation
7F-2, No.3-1, Park Street
NanKang District (NKSP), Taipei, Taiwan 115
Phone: 886-2-2655-8178
For: 886-2-2655-8168

Fax: 886-2-2655-8468 © http://www.syncpower.com