



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 .

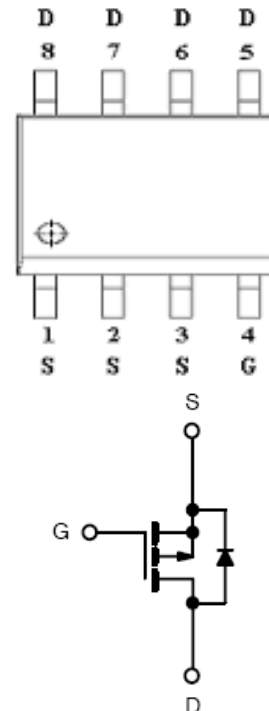
FEATURES

- ◆ -30V/-9.2A, $R_{DS(ON)}= 24m\Omega@V_{GS}=- 10V$
- ◆ -30V/-7.0A, $R_{DS(ON)}= 30m\Omega@V_{GS}=-4.5V$
- ◆ Super high density cell design for extremely low RDS (ON)
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ SOP – 8P package design

APPLICATIONS

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

PIN CONFIGURATION(SOP – 8P)



PART MARKING



A : Lot Code
B : Date Code



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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- 8P	SPP4435W

※ SPP4435WS8RGB : 13" Tape Reel ; Pb – Free; Halogen – Free

ABSOLUTE MAXIMUM RATINGS

($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Parameter	Symbol	Typical	Unit	
Drain-Source Voltage	V_{DSS}	-30	V	
Gate –Source Voltage	V_{GSS}	± 20	V	
Continuous Drain Current($T_J=150^{\circ}\text{C}$)	I_D	$T_A=25^{\circ}\text{C}$	-10.0	A
		$T_A=70^{\circ}\text{C}$	-7.0	
Pulsed Drain Current	I_{DM}	-50	A	
Continuous Source Current(Diode Conduction)	I_S	-2.3	A	
Power Dissipation	P_D	$T_A=25^{\circ}\text{C}$	2.8	W
		$T_A=70^{\circ}\text{C}$	1.8	
Operating Junction Temperature	T_J	-55/150	$^{\circ}\text{C}$	
Storage Temperature Range	T_{STG}	-55/150	$^{\circ}\text{C}$	
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	70	$^{\circ}\text{C}/\text{W}$	



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ELECTRICAL CHARACTERISTICS

(TA=25°C Unless otherwise noted)

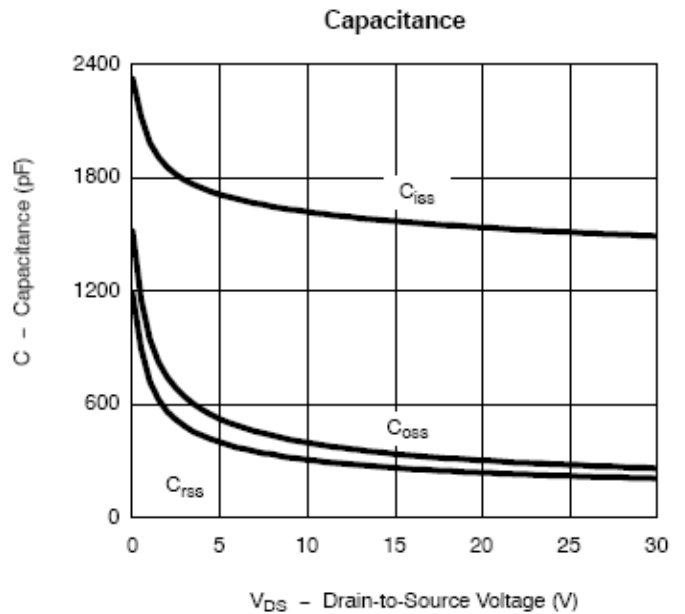
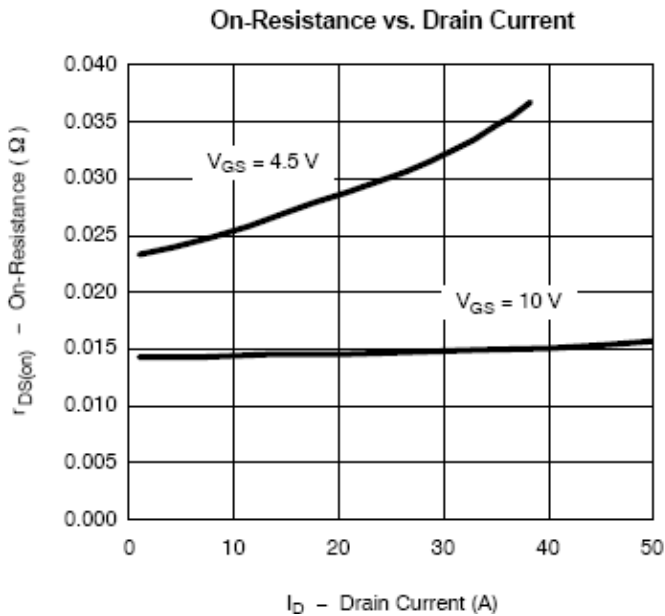
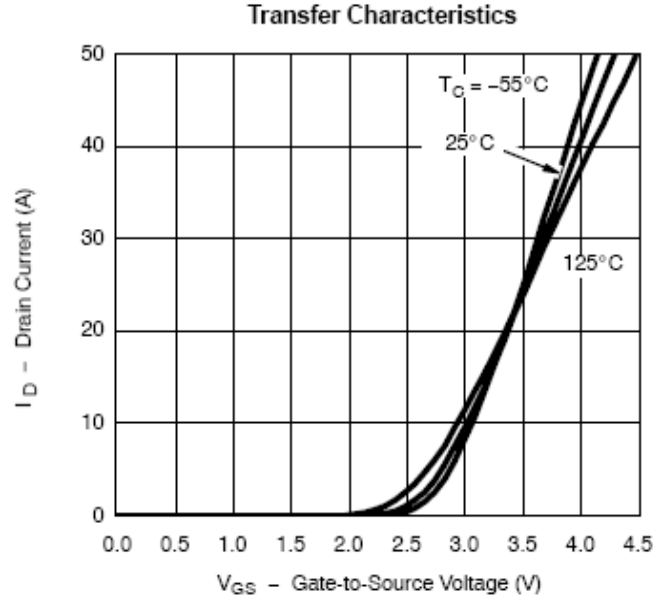
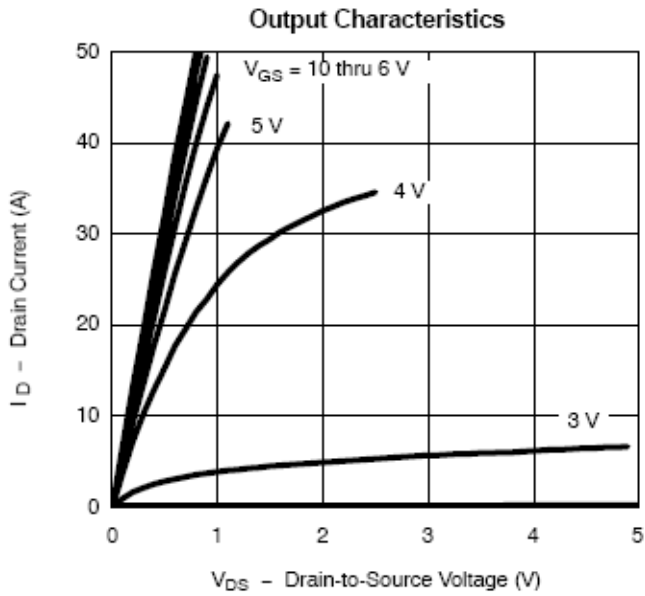
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.7		-1.6	
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-24V, V_{GS}=0V$			-1	uA
		$V_{DS}=-24V, V_{GS}=0V$ $T_J=55^\circ C$			-5	
On-State Drain Current	$I_{D(on)}$	$V_{DS}=-5V, V_{GS}=-4.5V$	-40			A
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-9.2A$		0.020	0.024	Ω
		$V_{GS}=-4.5V, I_D=-7.0A$		0.025	0.030	
Forward Transconductance	g_{fs}	$V_{DS}=-10V, I_D=-9.0A$		24		S
Diode Forward Voltage	V_{SD}	$I_S=-2.3A, V_{GS}=0V$		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=-15V, V_{GS}=-10V$ $I_D=-9.0A$		20	30	nC
Gate-Source Charge	Q_{gs}			3.5		
Gate-Drain Charge	Q_{gd}			4.8		
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V$ $f=1MHz$		1850		pF
Output Capacitance	C_{oss}			450		
Reverse Transfer Capacitance	C_{rss}			335		
Turn-On Time	$t_{d(on)}$	$V_{DD}=-15V, R_L=15\Omega$ $I_D=-1.0A, V_{GEN}=-10V$ $R_G=6\Omega$		20	30	nS
	t_r			20	30	
Turn-Off Time	$t_{d(off)}$			75	110	
	t_f			40	80	



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TYPICAL CHARACTERISTICS

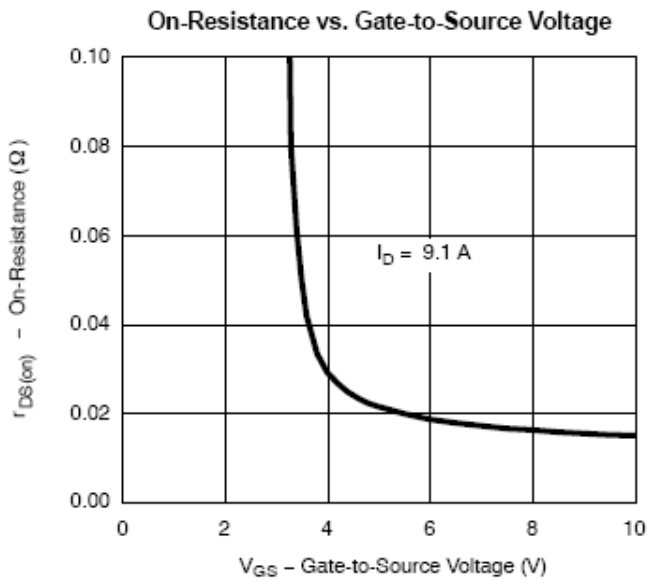
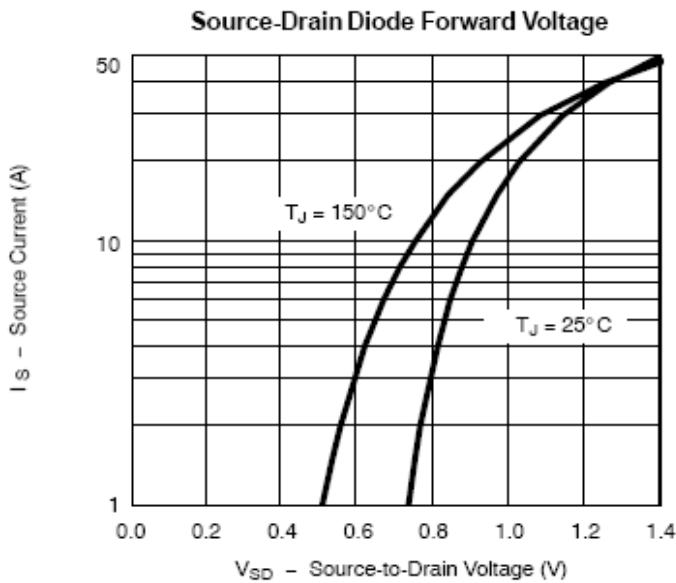
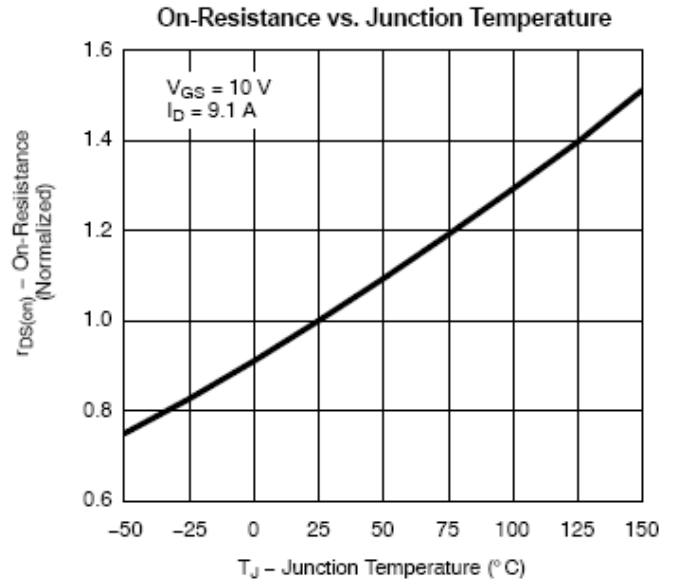
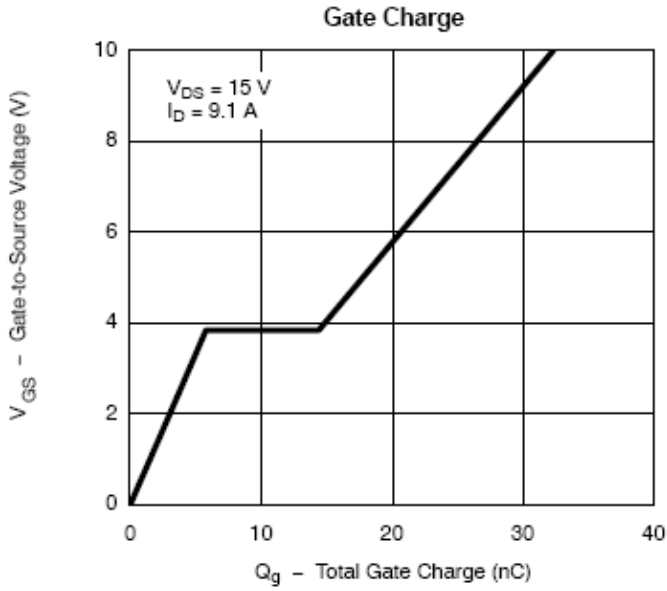




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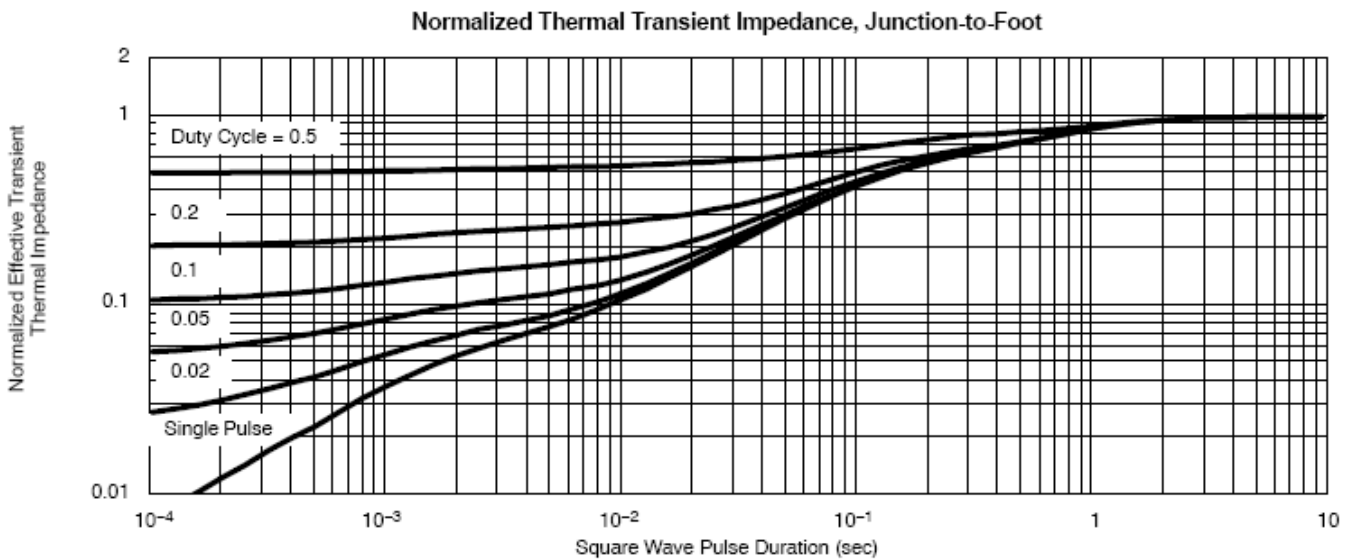
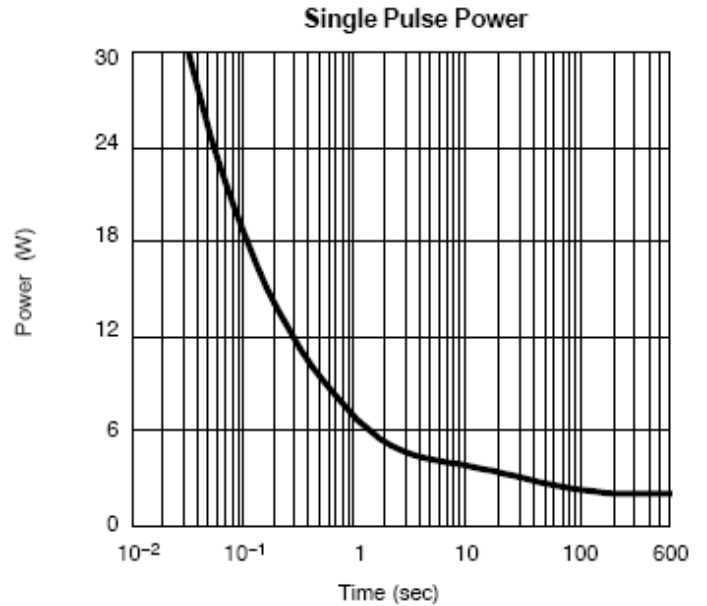
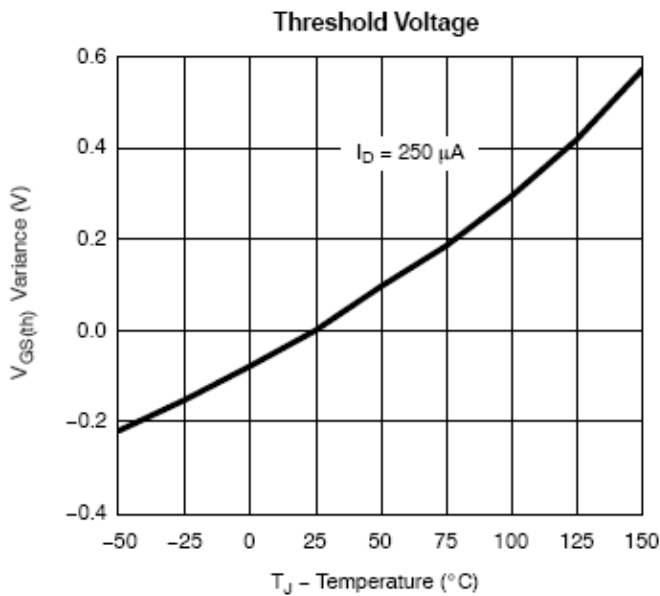




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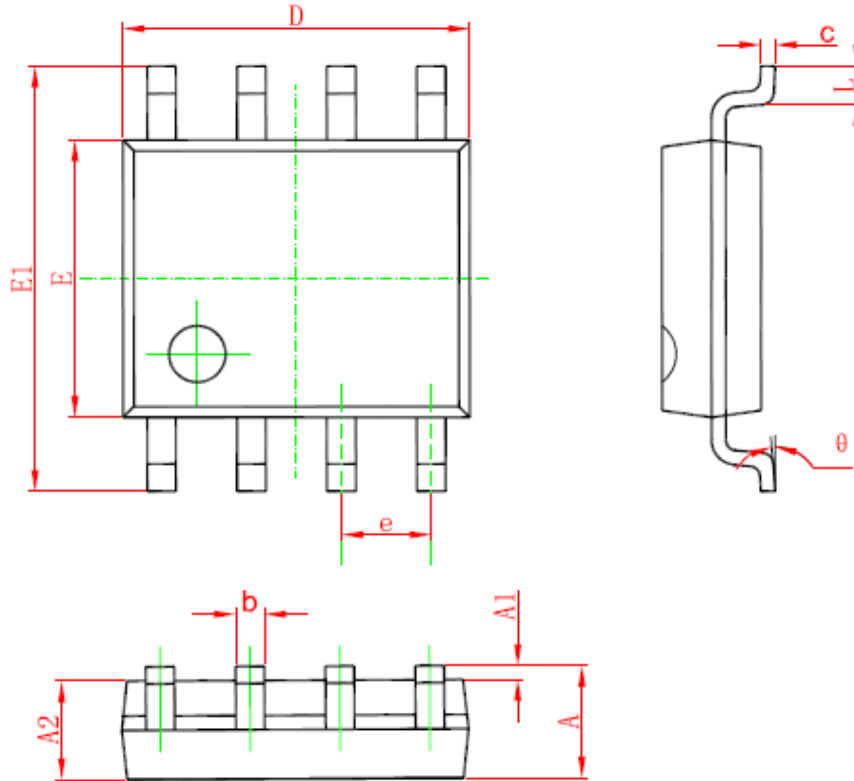




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SOP-8 PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270 (BSC)		0.050 (BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°



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