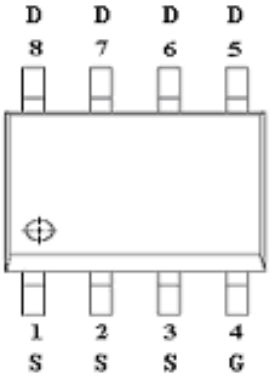
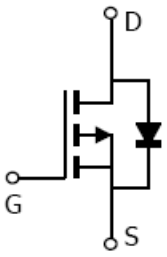
SPP4435W
P-Channel Enhancement Mode MOSFET

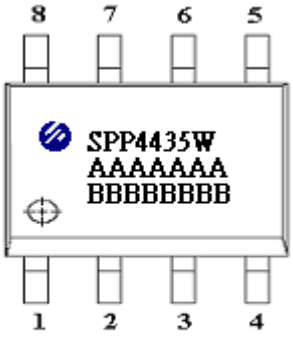
DESCRIPTION
The SPP4435W is the P-Channel logic enhancement mode power field effect transistors are produced using high cell density , DMOS trench technology.
This high density process is especially tailored to minimize on-state resistance.
These devices are particularly suited for low voltage application , 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,$R_{DS(ON)}$=24mΩ@V_{GS}=-10V
- -30V/-7.0A,$R_{DS(ON)}$=30mΩ@V_{GS}=-4.5V
- Super high density cell design for extremely low $R_{DS\ (ON)}$
- Exceptional on-resistance and maximum DC current capability
- SOP–8 package design

PIN CONFIGURATION(SOP–8)




PART MARKING


A : Lot Code
B : Date Code

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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-8	SPP4435W

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

ABSOULTE MAXIMUM RATINGS

(T_A=25℃ 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℃)	T_A=25℃	I_D	-10.0	A
	T_A=70℃		-7.0	
Pulsed Drain Current		I_{DM}	-50	A
Continuous Source Current(Diode Conduction)		I_S	-2.3	A
Power Dissipation	T_A=25℃	P_D	2.8	W
	T_A=70℃		1.8	
Operating Junction Temperature		T_J	-55/150	℃
Storage Temperature Range		T_{STG}	-55/150	℃
Thermal Resistance-Junction to Ambient		$R_{\theta JA}$	70	℃/W

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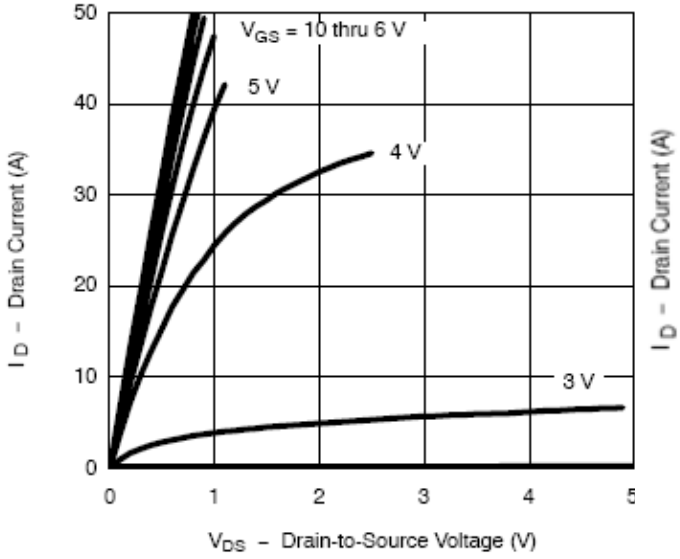
ELECTRICAL CHARACTERISTICS

(T_A=25℃ Unless otherwise noted)

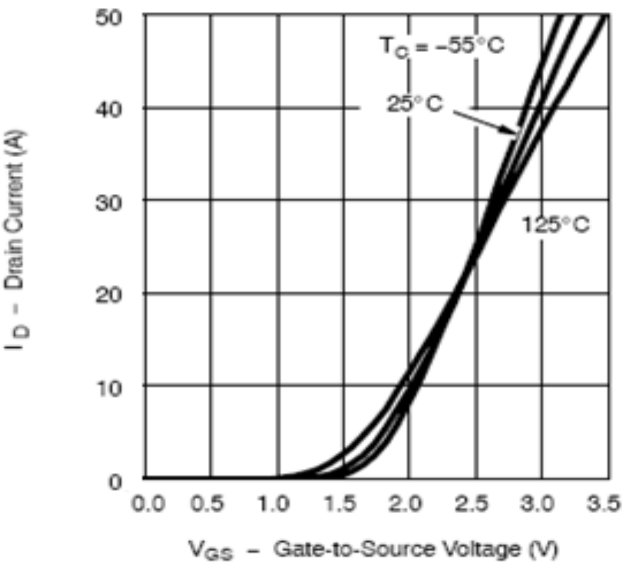
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=-250uA	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=-250uA	-0.7		-1.6	
Gate Leakage Current	I_{GSS}	V_{DS}=0V,V_{GS}=±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-24V,V_{GS}=0V			-1	uA
		V_{DS}=-24V,V_{GS}=0V T_J=55℃			-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	gfs	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=15Ω I_D≡-1.0A,V_{GEN}=-10V R_G=6Ω		20	30	nS
	t_r			20	30	
Turn-Off Time	$t_{d(off)}$			75	110	
	t_f			40	80	

TYPICAL CHARACTERISTICS

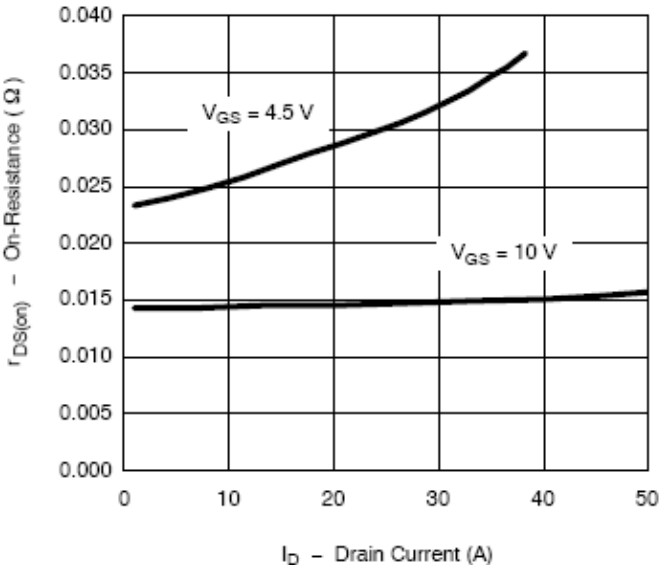
Output Characteristics



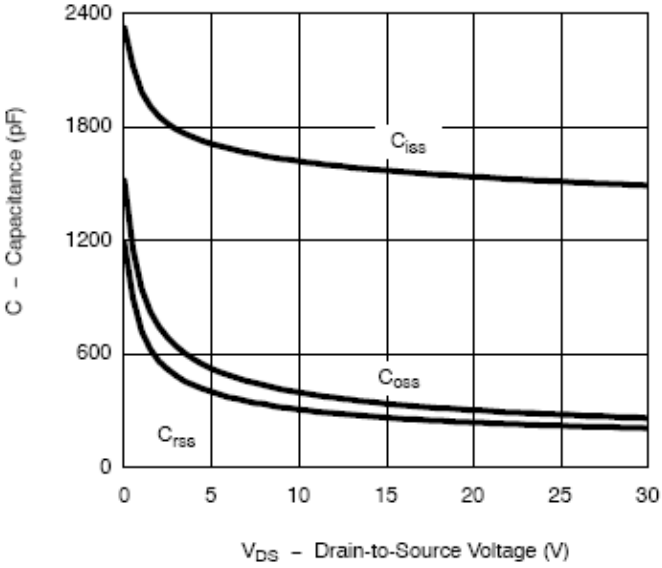
Transfer Characteristics



On-Resistance vs. Drain Current

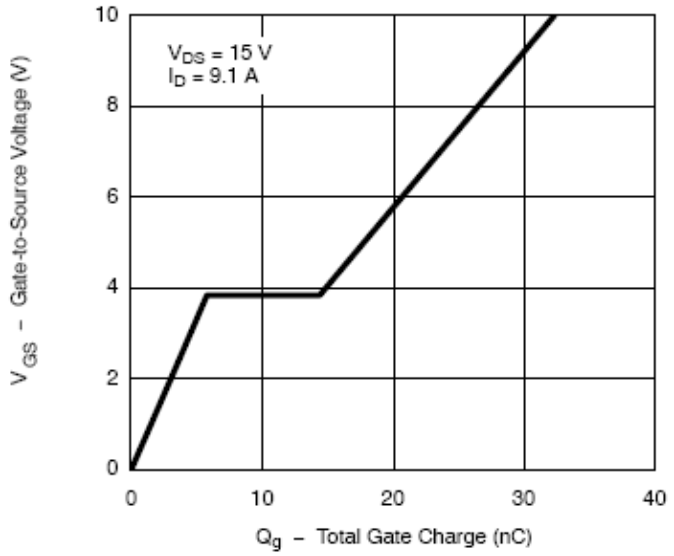


Capacitance

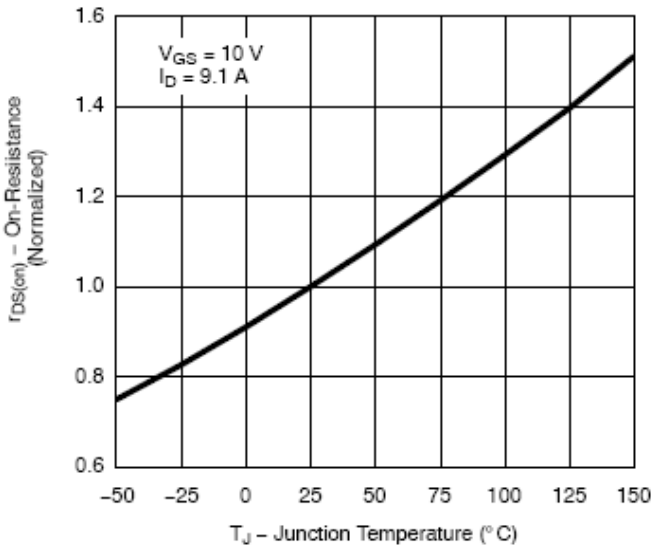


TYPICAL CHARACTERISTICS

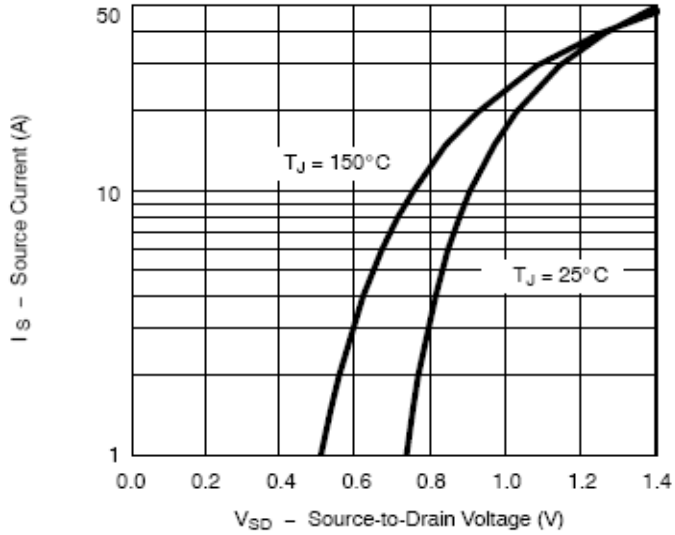
Gate Charge



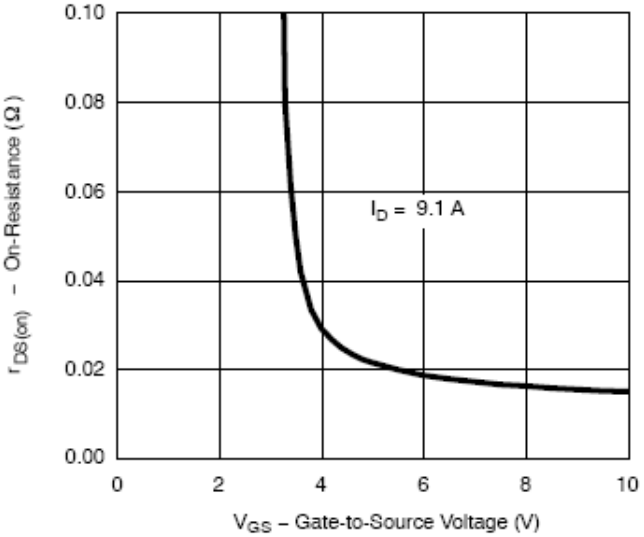
On-Resistance vs. Junction Temperature



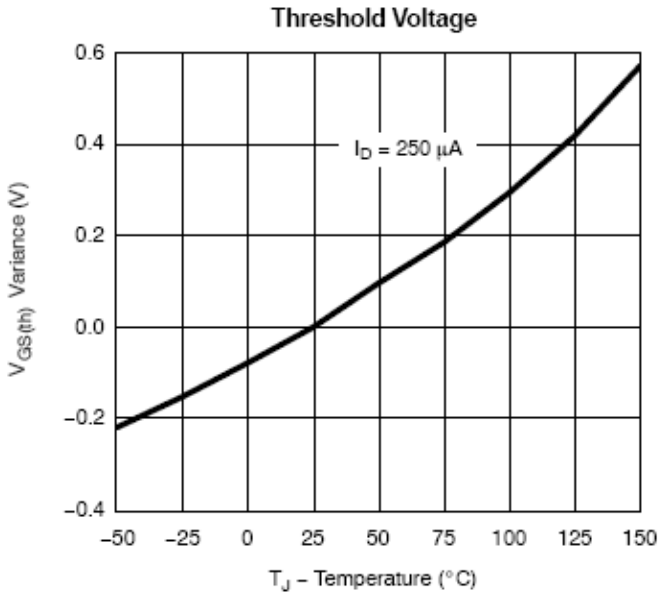
Source-Drain Diode Forward Voltage

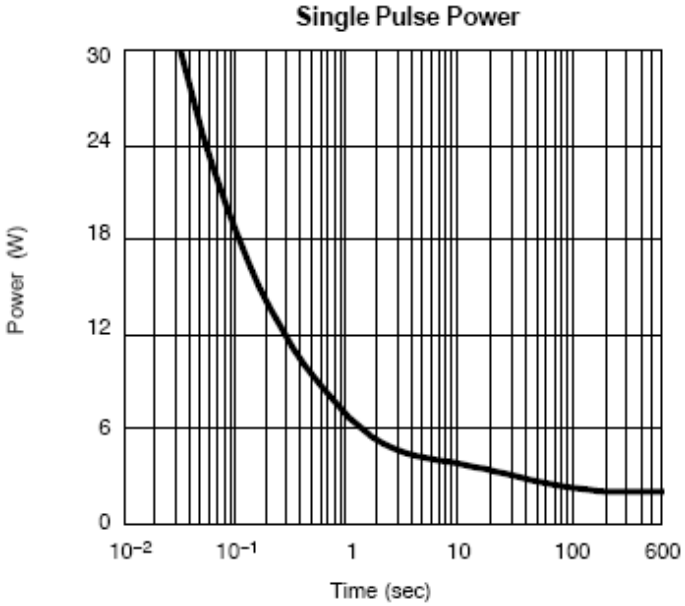


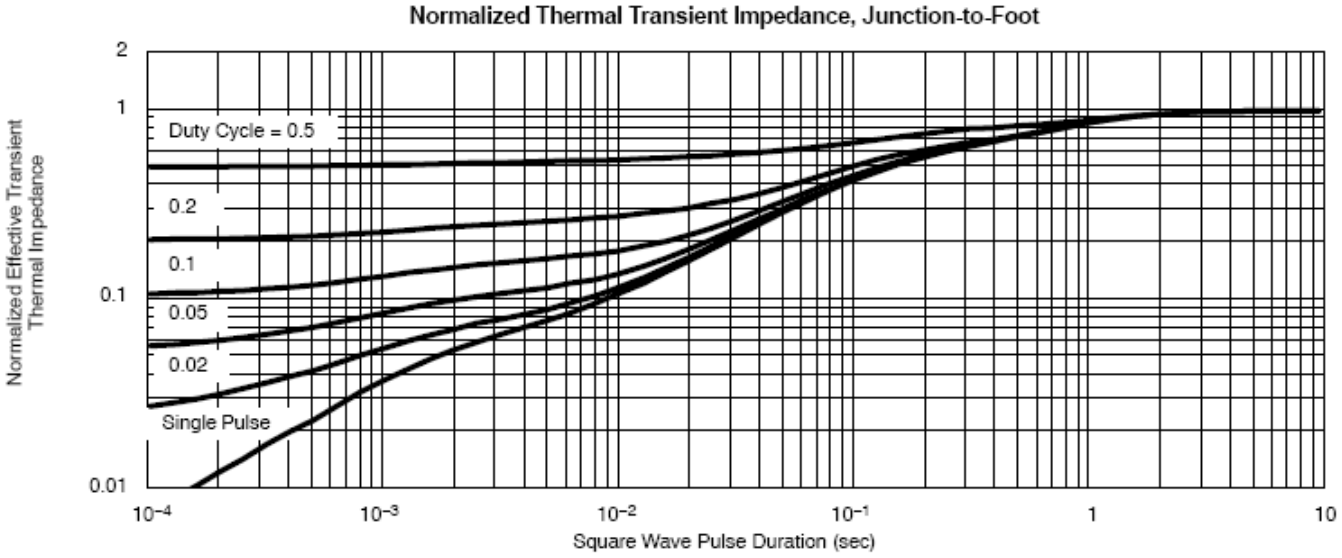
On-Resistance vs. Gate-to-Source Voltage



TYPICAL CHARACTERISTICS







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