



SPP4953

P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP4953 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 .

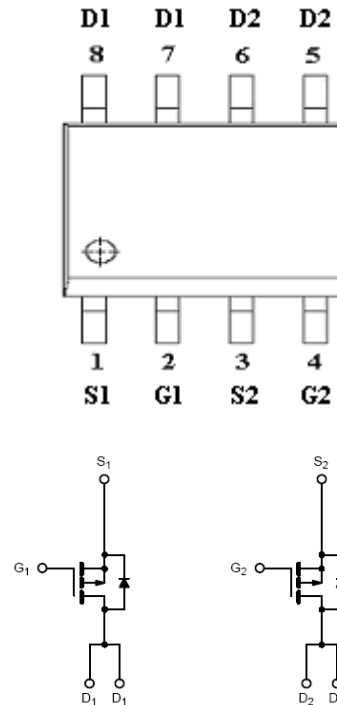
FEATURES

- ◆ -30V/-5.0A, $R_{DS(ON)}=60m\Omega@V_{GS}=-10V$
- ◆ -30V/-4.5A, $R_{DS(ON)}=80m\Omega@V_{GS}=-6V$
- ◆ -30V/-3.7A, $R_{DS(ON)}=90m\Omega@V_{GS}=-4.5V$
- ◆ Super high density cell design for extremely low $R_{DS(ON)}$
- ◆ 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





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PIN DESCRIPTION

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

ORDERING INFORMATION

Part Number	Package	Part Marking
SPP4953S8RG	SOP- 8P	SPP4953
SPP4953S8RGB	SOP- 8P	SPP4953

※ SPP4953S8RG : 13" Tape Reel ; Pb – Free

※ SPP4953S8RGB : 13" Tape Reel ; Pb – Free ; Halogen – Free

※

ABSOLUTE MAXIMUM RATINGS

(TA=25°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°C)	I _D	TA=25°C	-6.2
		TA=70°C	-4.0
Pulsed Drain Current	I _{DM}	-30	A
Continuous Source Current(Diode Conduction)	I _S	-2.3	A
Power Dissipation	P _D	TA=25°C	2.8
		TA=70°C	1.8
Operating Junction Temperature	T _J	-55/150	°C
Storage Temperature Range	T _{STG}	-55/150	°C
Thermal Resistance-Junction to Ambient	R _{θJA}	70	°C/W



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ELECTRICAL CHARACTERISTICS

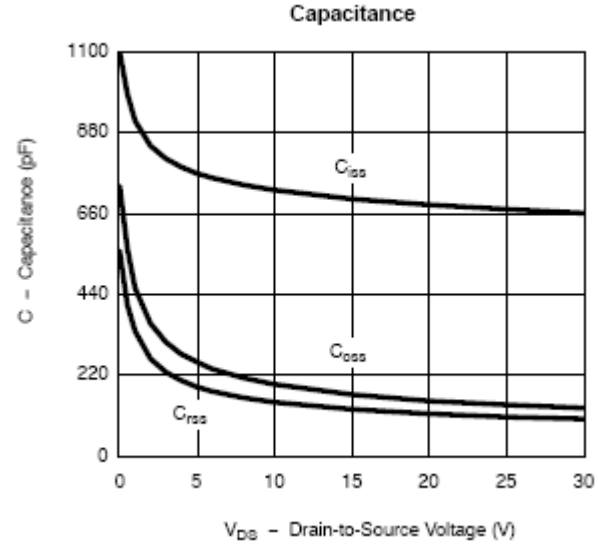
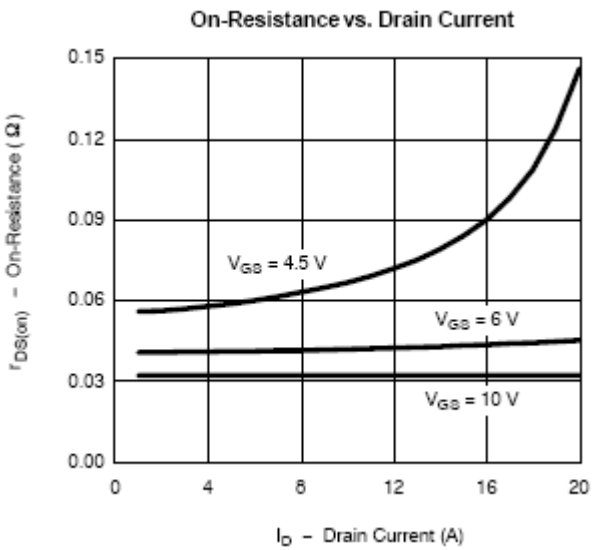
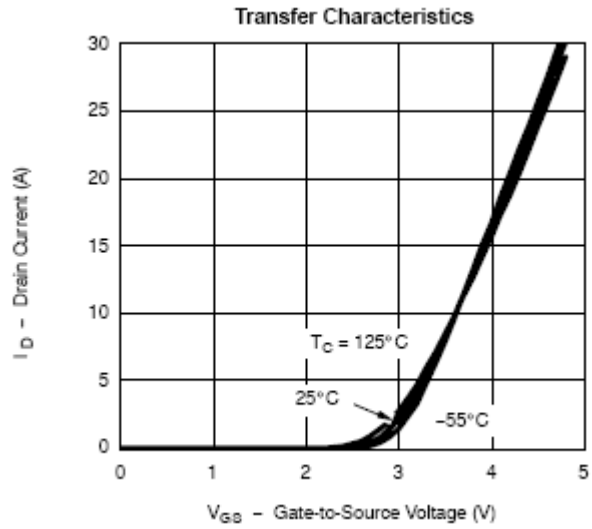
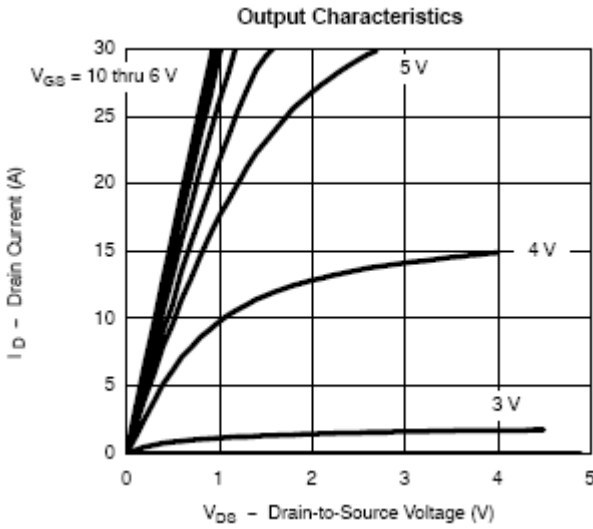
(TA=25°C Unless otherwise noted)

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	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.0		-3.0	
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-21V, V_{GS}=0V$			-1	uA
		$V_{DS}=-21V, V_{GS}=0V$ $T_J=55^\circ C$			-5	
On-State Drain Current	$I_{D(on)}$	$V_{DS}=-5V, V_{GS}=-10V$	-25			A
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-5.4A$		0.050	0.060	Ω
		$V_{GS}=-6.0V, I_D=-4.6A$		0.060	0.080	
		$V_{GS}=-4.5V, I_D=-4.0A$		0.075	0.090	
Forward Transconductance	g_{fs}	$V_{DS}=-10V, I_D=-5.0A$		9		S
Diode Forward Voltage	V_{SD}	$I_S=-2.0A, V_{GS}=0V$		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=-15V, V_{GS}=-10V$ $I_D=-5.0A$		15	25	nC
Gate-Source Charge	Q_{gs}			4		
Gate-Drain Charge	Q_{gd}			2		
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V$ $f=1MHz$		680		pF
Output Capacitance	C_{oss}			120		
Reverse Transfer Capacitance	C_{rss}			75		
Turn-On Time	$t_{d(on)}$	$V_{DD}=-15V, R_L=15\Omega$ $I_D=-1.0A, V_{GEN}=-10V$ $R_G=6\Omega$		7	15	nS
	t_r			10	20	
Turn-Off Time	$t_{d(off)}$			40	80	
	t_f			20	40	



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TYPICAL CHARACTERISTICS

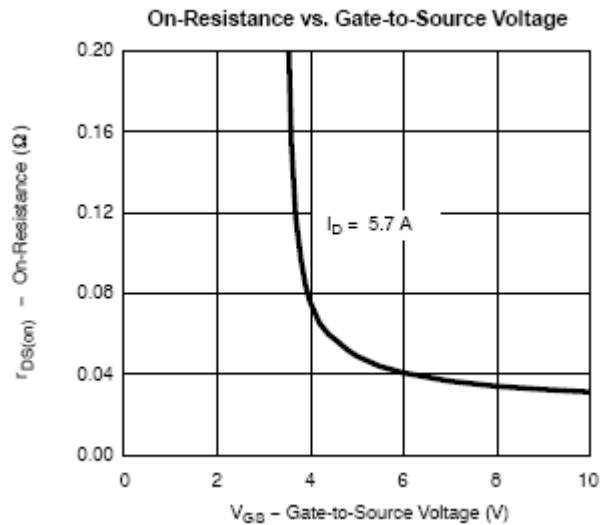
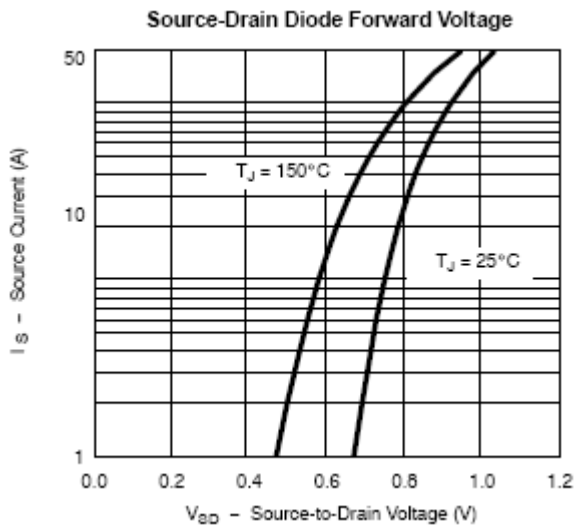
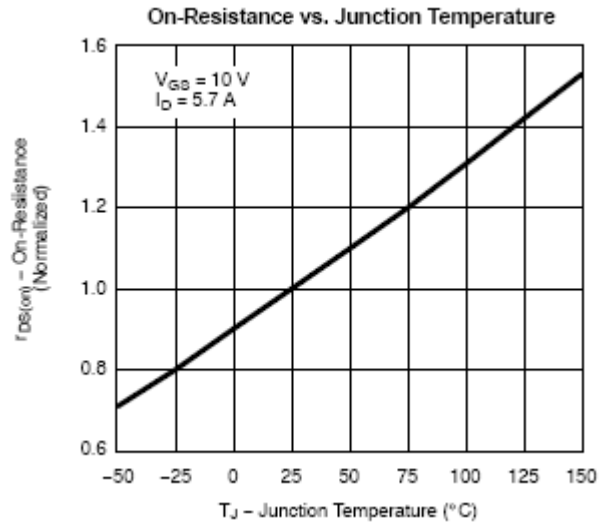
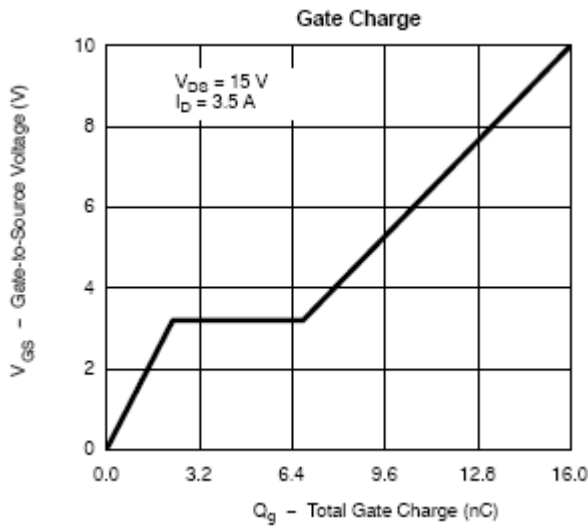




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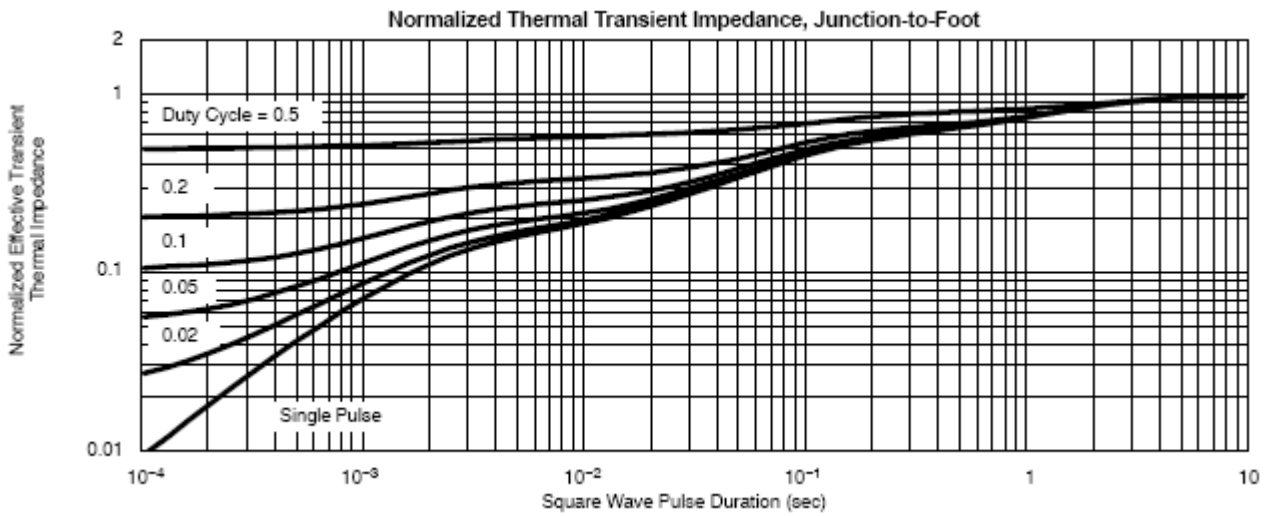
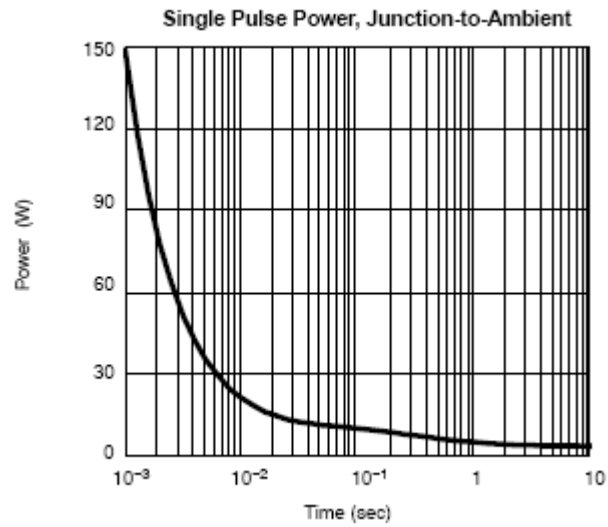
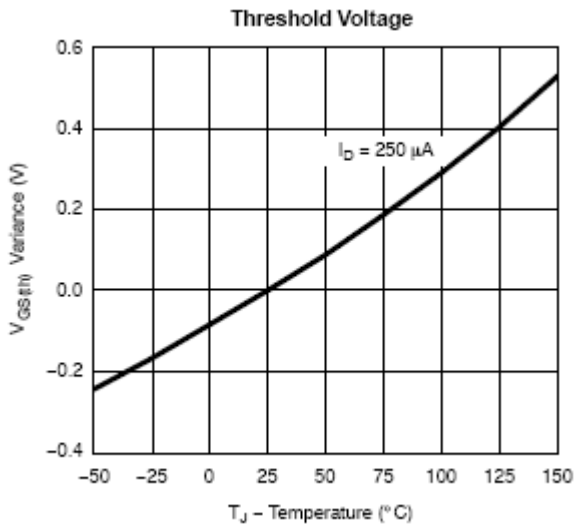
TYPICAL CHARACTERISTICS





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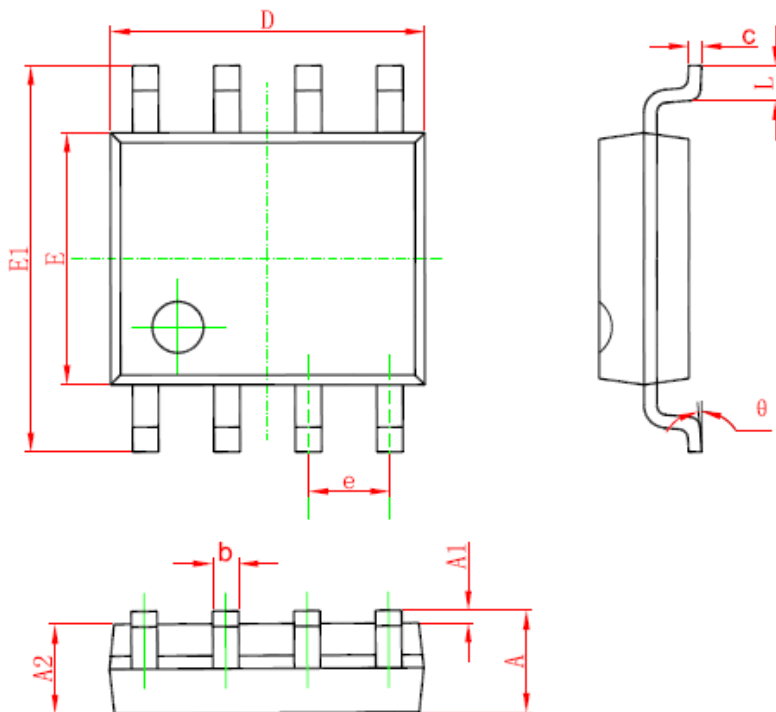




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SOP- 8 PACKAGE OUTLINE



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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