SPP2319
P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP2319 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 such as cellular phone and notebook computer power management and other battery powered circuits where high-side switching , and low in-line power loss are needed in a very small outline surface mount package.

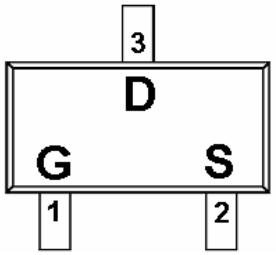
APPLICATIONS

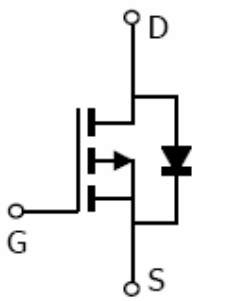
- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

FEATURES

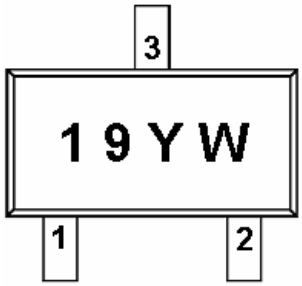
- -40V/-3.0A,$R_{DS(ON)}$= 96mΩ@V_{GS}=- 10V
- -40V/-2.8A,$R_{DS(ON)}$=110mΩ@V_{GS}=-4.5V
- Super high density cell design for extremely low RDS (ON)
- Exceptional on-resistance and maximum DC current capability
- SOT-23-3L package design

PIN CONFIGURATION (SOT-23-3L)





PART MARKING



Y : Year Code
W : Week Code

SPP2319
P-Channel Enhancement Mode MOSFET

PIN DESCRIPTION

Pin	Symbol	Description
1	G	Gate
2	S	Source
3	D	Drain

ORDERING INFORMATION

Part Number	Package	Part Marking
SPP2319S23RGB	SOT-23-3L	19YW

※ Week Code : A ~ Z(1 ~ 26) ; a ~ z(27 ~ 52)

※ SPP2319S23RGB : Tape Reel ; Pb – Free ; Halogen – Free

ABSOULTE MAXIMUM RATINGS

(T_A=25℃ Unless otherwise noted)

Parameter		Symbol	Typical	Unit
Drain-Source Voltage		V_{DSS}	-40	V
Gate –Source Voltage		V_{GSS}	±20	V
Continuous Drain Current(T_J=150℃)	T_A=25℃	I_D	-3.5	A
	T_A=70℃		-2.8	
Pulsed Drain Current		I_{DM}	-20	A
Continuous Source Current(Diode Conduction)		I_S	-1.4	A
Power Dissipation	T_A=25℃	P_D	1.25	W
	T_A=70℃		0..81	
Operating Junction Temperature		T_J	-55/150	℃
Storage Temperature Range		T_{STG}	-55/150	℃
Thermal Resistance-Junction to Ambient		$R_{\theta JA}$	105	℃/W

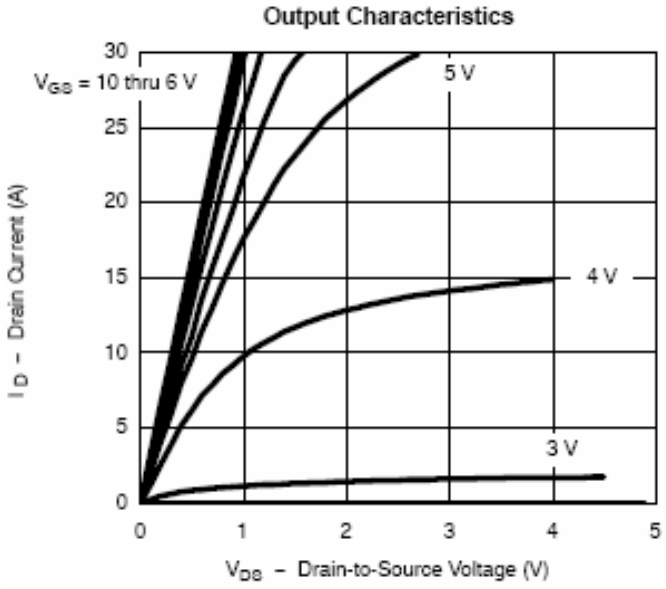
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P-Channel Enhancement Mode MOSFET

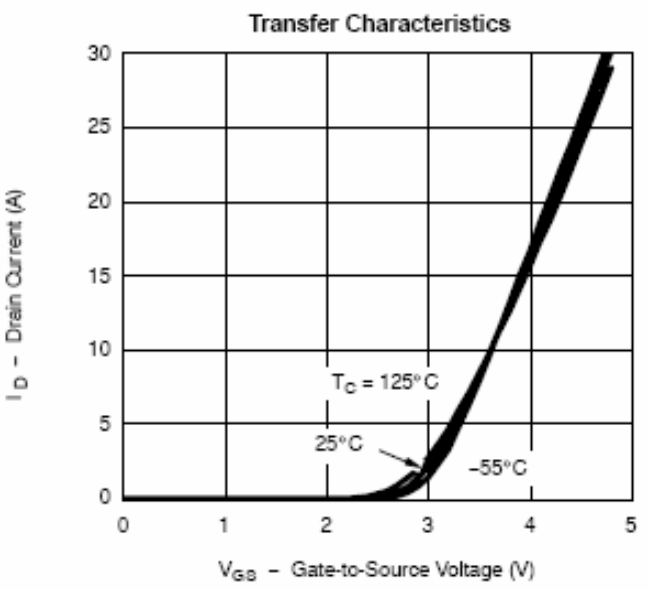
ELECTRICAL CHARACTERISTICS

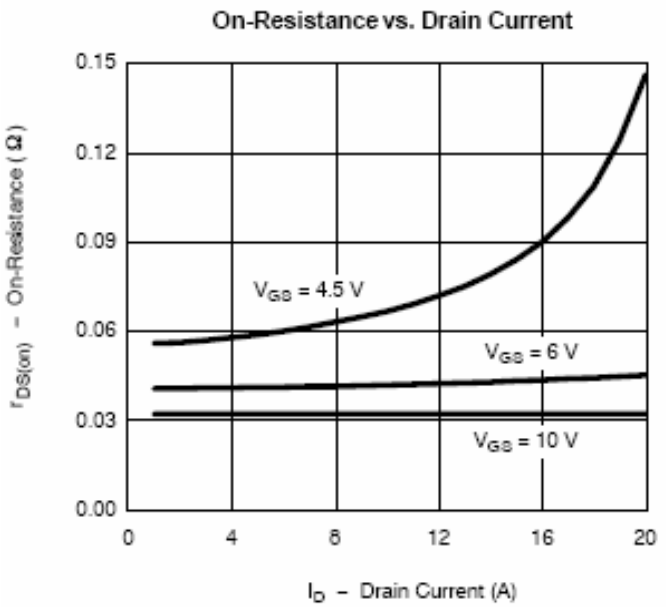
(T_A=25℃ Unless otherwise noted)

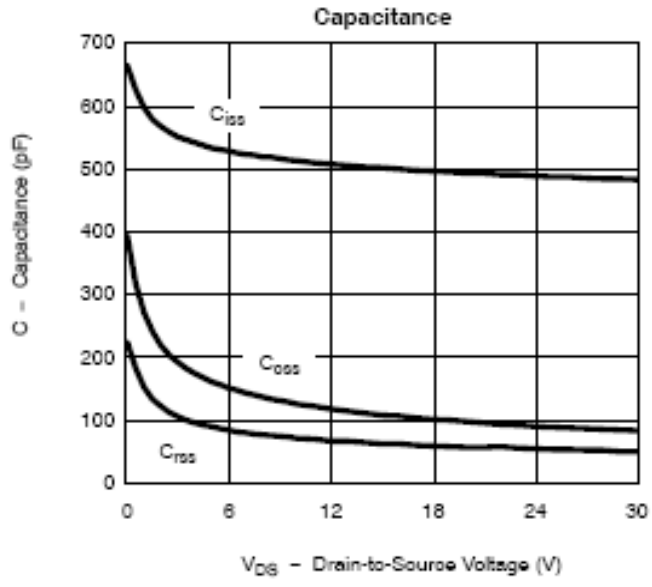
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=-250uA	-40			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=-250uA	-0.8		-2.5	
Gate Leakage Current	I_{GSS}	V_{DS}=0V,V_{GS}=±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-36V,V_{GS}=0V			-1	uA
		V_{DS}=-36V,V_{GS}=0V T_J=85℃			-5	
On-State Drain Current	$I_{D(on)}$	V_{DS}= -5V,V_{GS} =-4.5V	-10			A
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=-10V,I_D=-3.0A		0.090	0.096	Ω
		V_{GS}=-4.5V,I_D=-2.8A		0.100	0.110	
Forward Transconductance	gfs	V_{DS}=-15V,I_D=-3.0A		13		S
Diode Forward Voltage	V_{SD}	I_S=-1.3A,V_{GS} =0V		-0.55	-1.0	V
Dynamic						
Total Gate Charge	Q_g	V_{DS}=-15V,V_{GS}=-10V I_D= -3.0A		9	12	nC
Gate-Source Charge	Q_{gs}			1.5		
Gate-Drain Charge	Q_{gd}			2.0		
Input Capacitance	C_{iss}	V_{DS}=-15V,V_{GS}=0V f=1MHz		500		pF
Output Capacitance	C_{oss}			95		
Reverse Transfer Capacitance	C_{rss}			50		
Turn-On Time	$t_{d(on)}$	V_{DD}=-15V,R_L=15Ω I_D≡-1.0A,V_{GEN}=-10V R_G=6Ω		8	20	nS
	t_r			10	20	
Turn-Off Time	$t_{d(off)}$			30	35	
	t_f			15	20	

TYPICAL CHARACTERISTICS

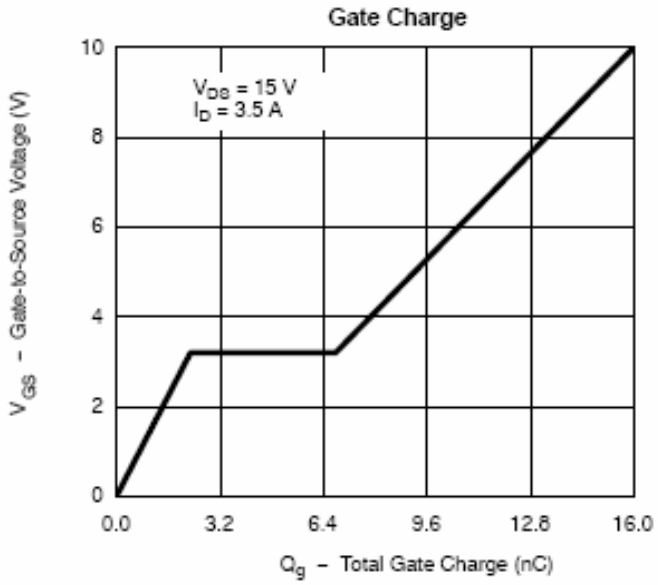


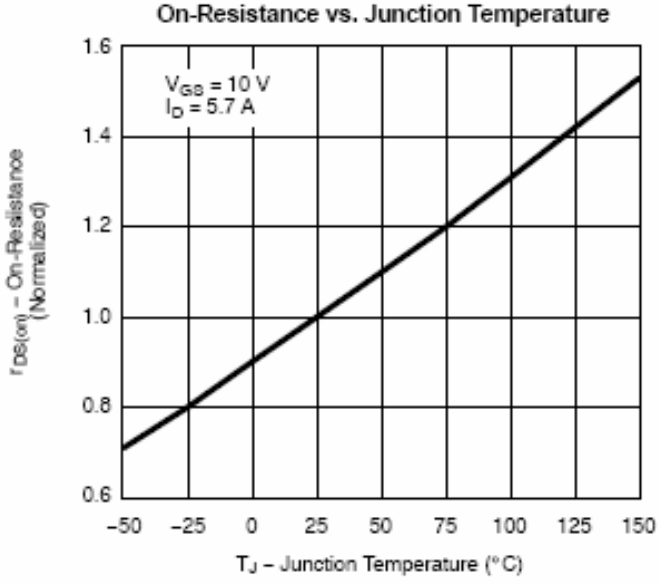


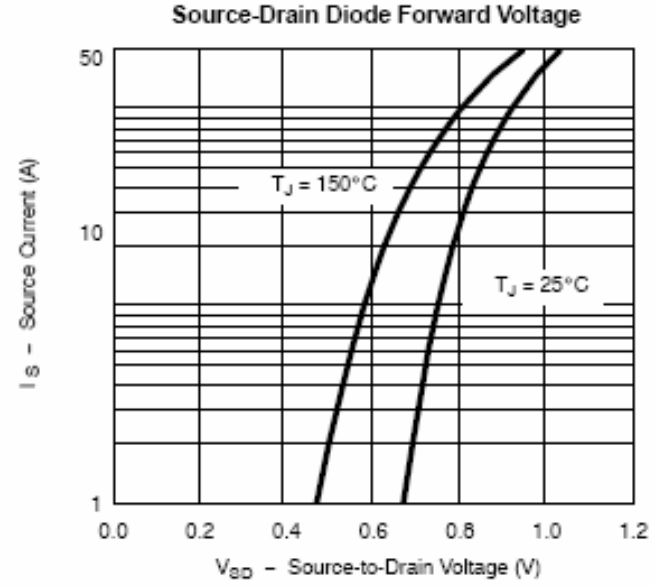


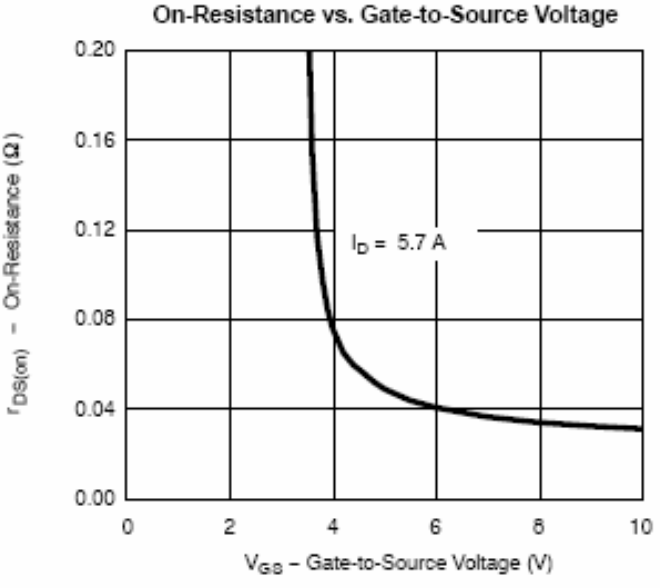


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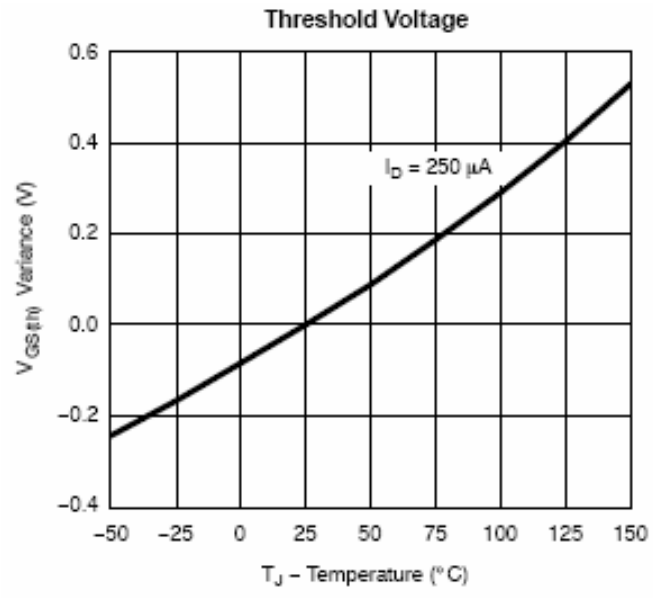


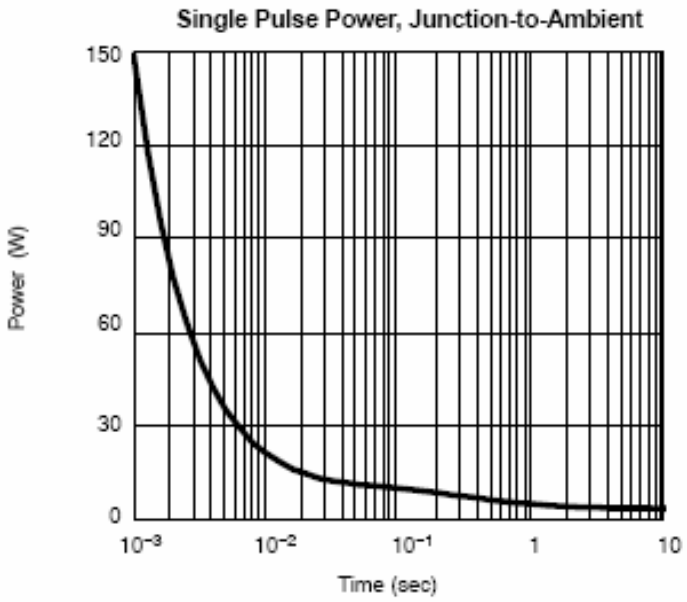


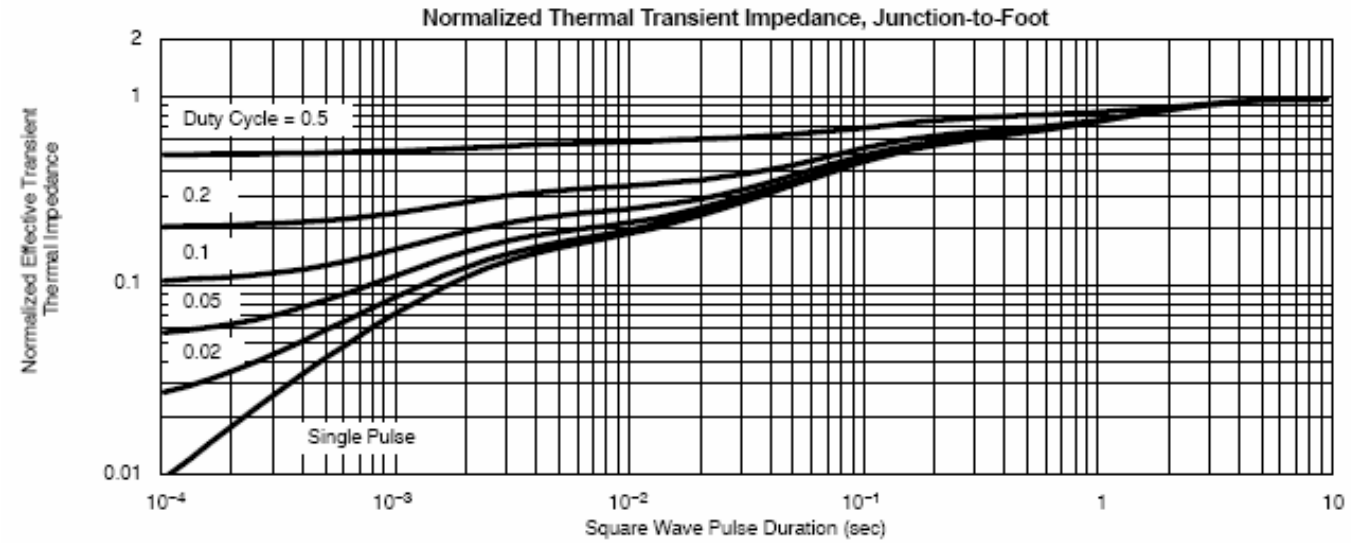




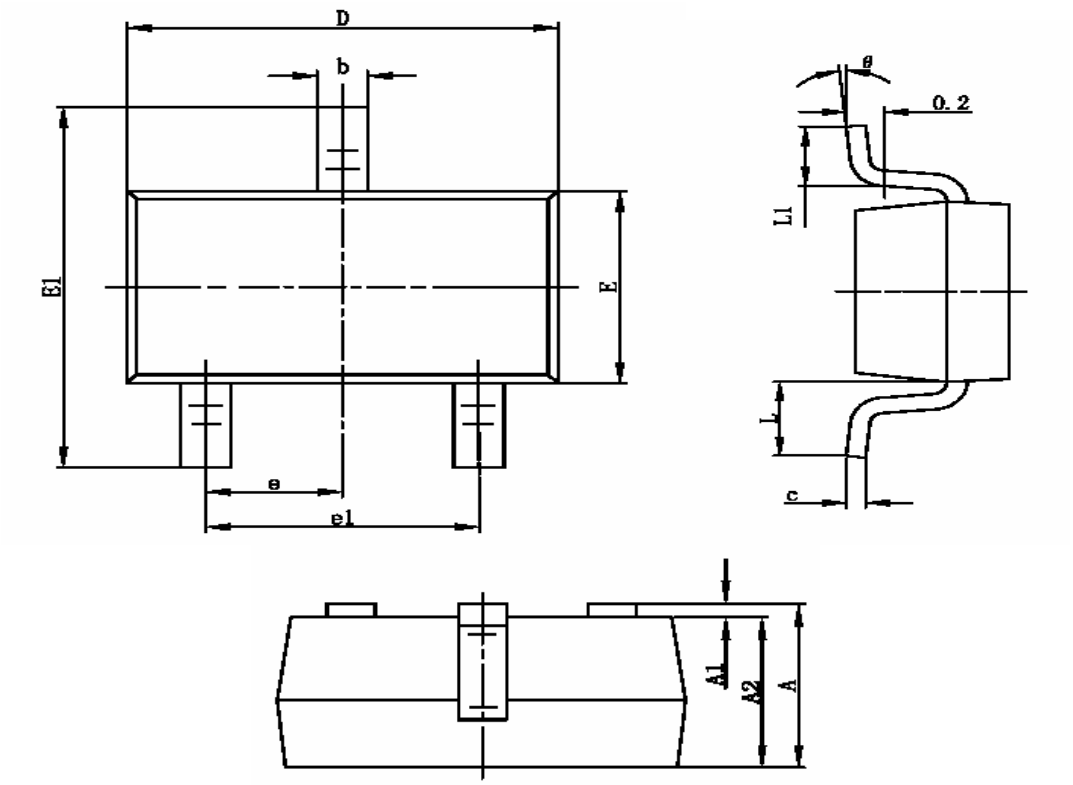
TYPICAL CHARACTERISTICS







SOT-23-3L PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.400	0.012	0.016
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.700REF		0.028REF	
L1	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

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