



SPP2303

P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP2303 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, and low in-line power loss are needed in a very small outline surface mount package.

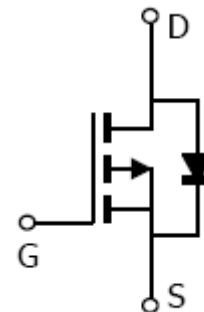
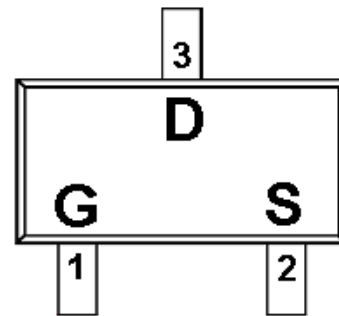
FEATURES

- ◆ -30V/-2.6A, $R_{DS(ON)}=130m\Omega@V_{GS}=-10V$
- ◆ -30V/-2.0A, $R_{DS(ON)}=180m\Omega@V_{GS}=-4.5V$
- ◆ Super high density cell design for extremely low $R_{DS(ON)}$
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ SOT-23-3L package design

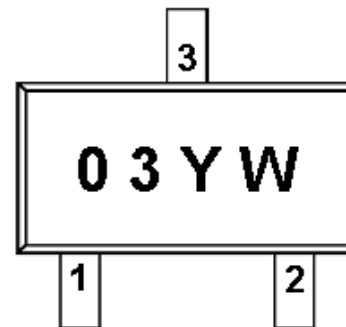
APPLICATIONS

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

PIN CONFIGURATION(SOT-23-3L)



PART MARKING



Y : Year Code
W : Week Code



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PIN DESCRIPTION

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

ORDERING INFORMATION

Part Number	Package	Part Marking
SPP2303S23RG	SOT-23-3L	03YW
SPP2303S23RGB	SOT-23-3L	03YW

- ※ Week Code : A ~ Z(1 ~ 26) ; a ~ z(27 ~ 52)
- ※ SPP2303S23RG : Tape Reel ; Pb – Free
- ※ SPP2303S23RGB : 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	-3.0	A
		TA=70°C	-2.0	
Pulsed Drain Current	I _{DM}	-10	A	
Continuous Source Current(Diode Conduction)	I _S	-1.25	A	
Power Dissipation	P _D	TA=25°C	1.25	W
		TA=70°C	0.8	
Operating Junction Temperature	T _J	150	°C	
Storage Temperature Range	T _{STG}	-55/150	°C	
Thermal Resistance-Junction to Ambient	R _{θJA}	100	°C/W	



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ELECTRICAL CHARACTERISTICS

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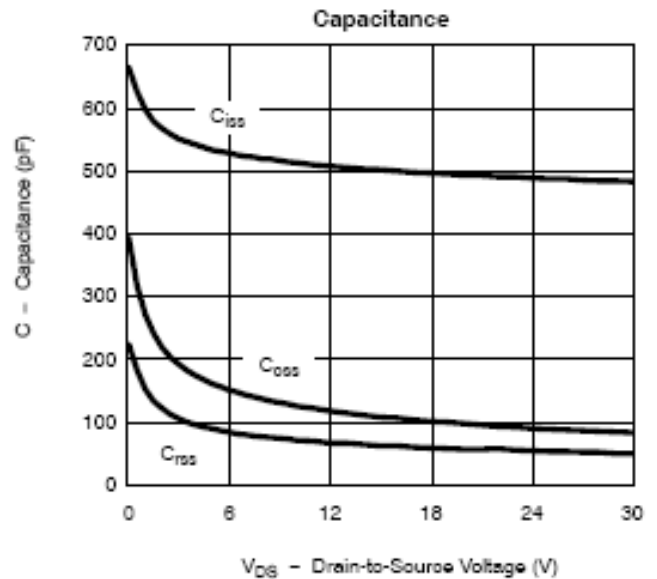
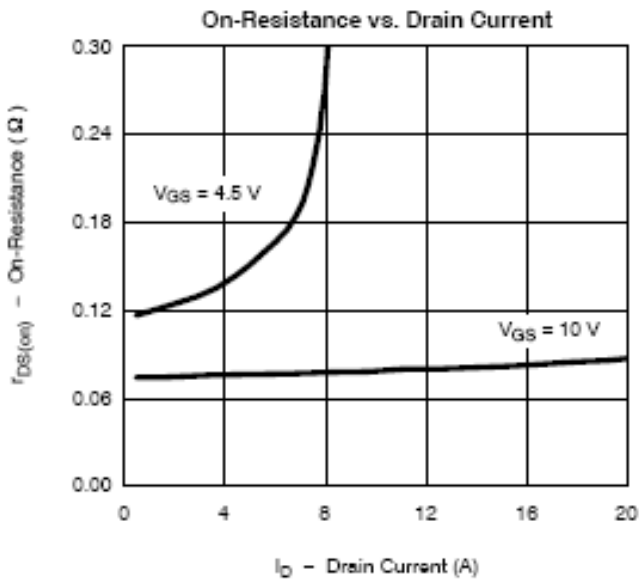
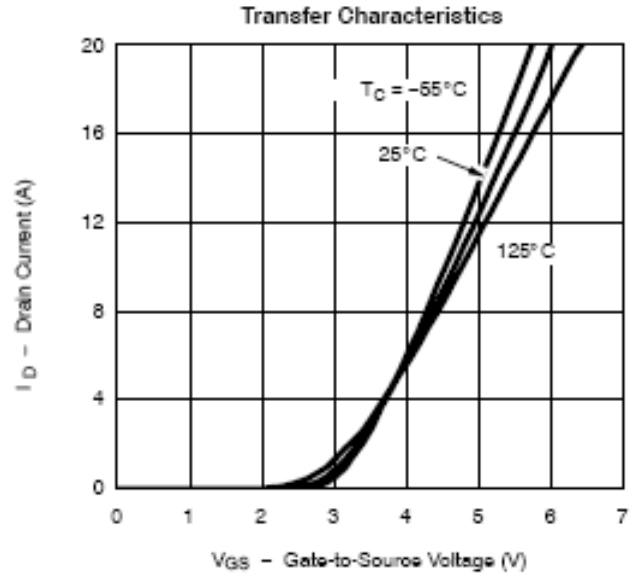
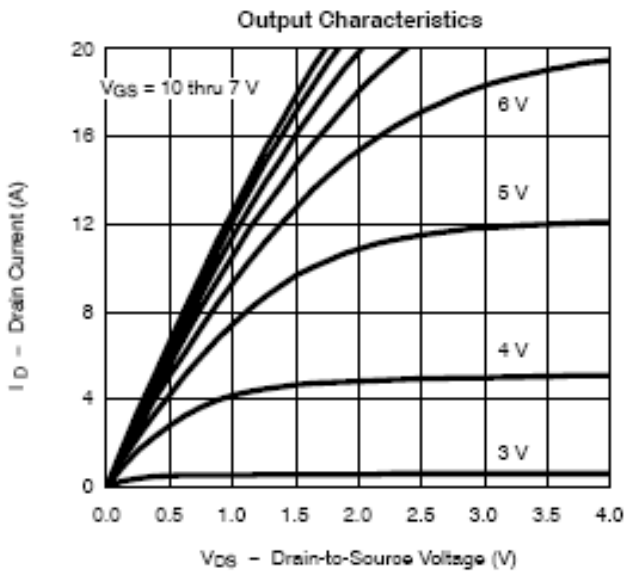
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =-250uA	-30			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250uA	-1.0		-3.0	
Gate Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-24V, V _{GS} =0V			-1	uA
		V _{DS} =-24V, V _{GS} =0V T _J =55°C			-10	
On-State Drain Current	I _{D(on)}	V _{DS} ≤ -5V, V _{GS} =-10V	-6			A
Drain-Source On-Resistance	R _{DSS(on)}	V _{GS} =-10V, I _D =-2.6A		0.095	0.130	Ω
		V _{GS} =-4.5V, I _D =-2.0A		0.125	0.180	
Forward Transconductance	g _{fs}	V _{DS} =-10V, I _D =-1.7A		2.4		S
Diode Forward Voltage	V _{SD}	I _S =-1.25A, V _{GS} =0V		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q _g	V _{DS} =-15V, V _{GS} =-10V I _D =-1.7A		5.8	10	nC
Gate-Source Charge	Q _{gs}			0.8		
Gate-Drain Charge	Q _{gd}			1.5		
Input Capacitance	C _{iss}	V _{DS} =-15V, V _{GS} =0V f=1MHz		226		pF
Output Capacitance	C _{oss}			87		
Reverse Transfer Capacitance	C _{rss}			19		
Turn-On Time	t _{d(on)}	V _{DD} =-15V, R _L =15Ω I _D =-1.0A, V _{GEN} =-10V R _G =6Ω		9	20	ns
	t _r			9	20	
Turn-Off Time	t _{d(off)}			18	35	
	t _f			6	20	



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TYPICAL CHARACTERISTICS

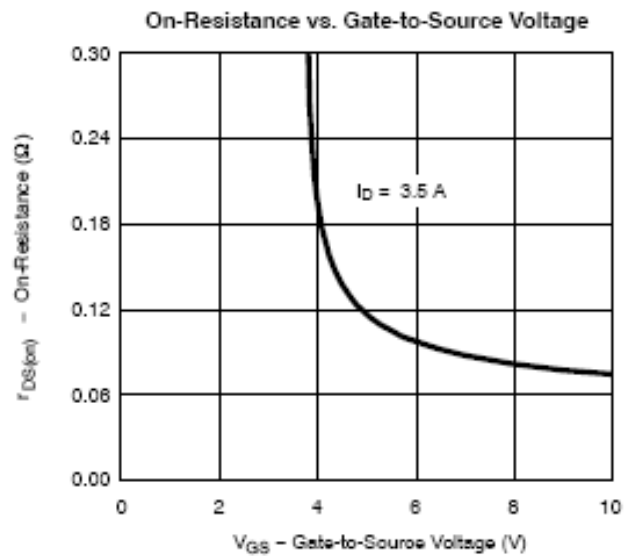
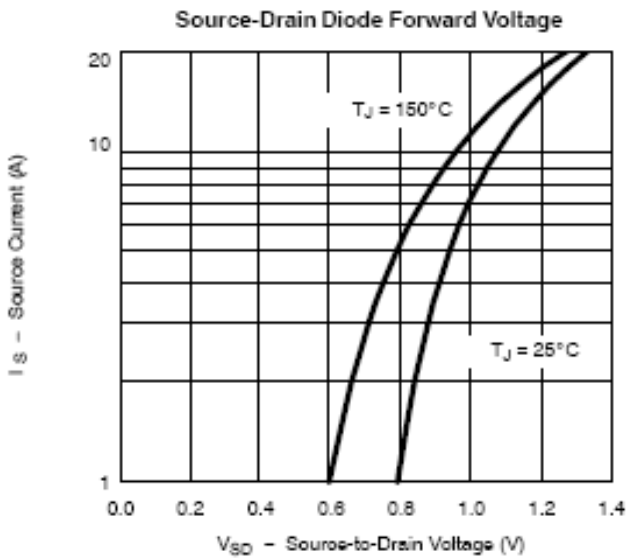
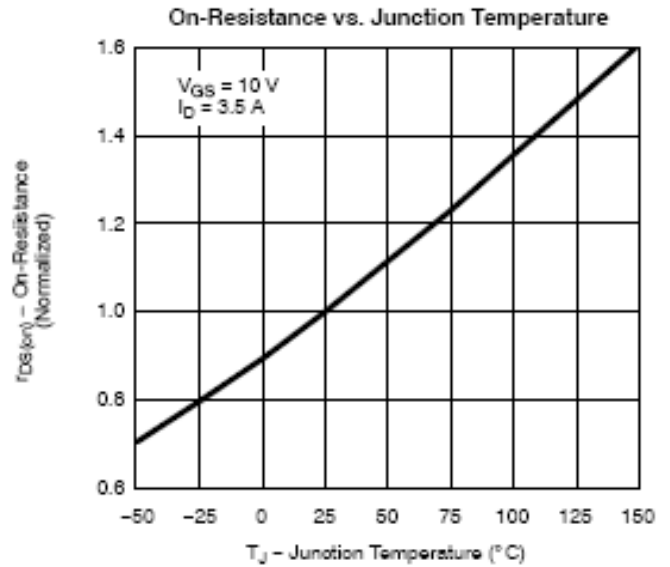
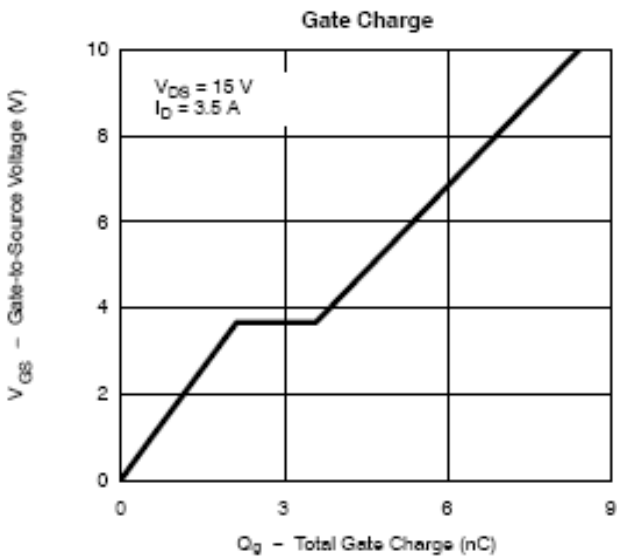




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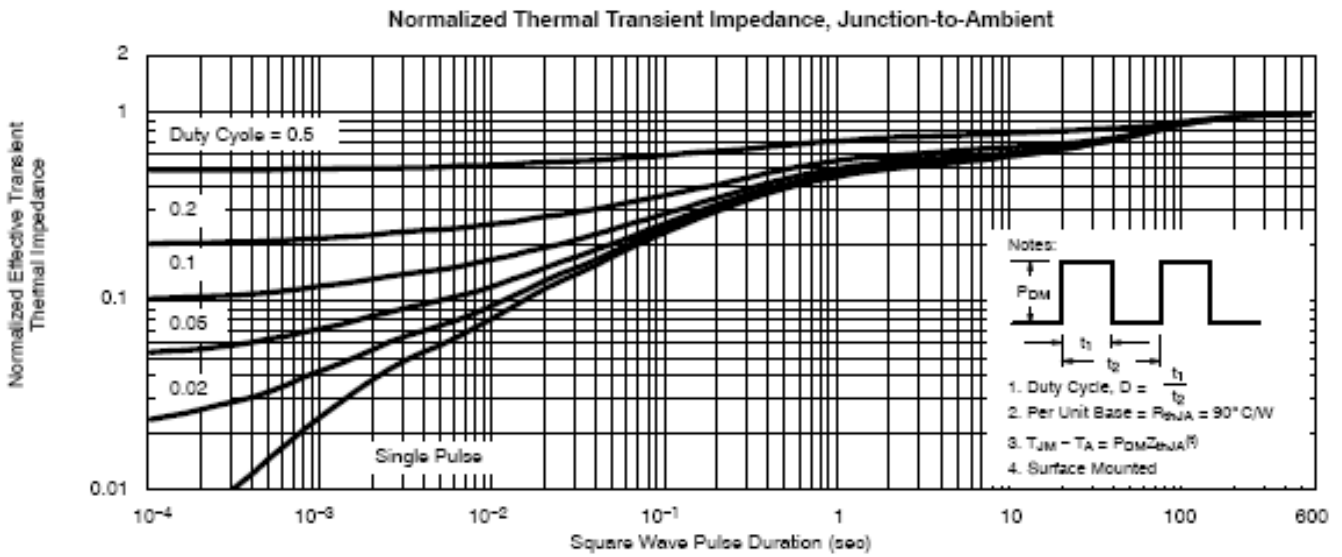
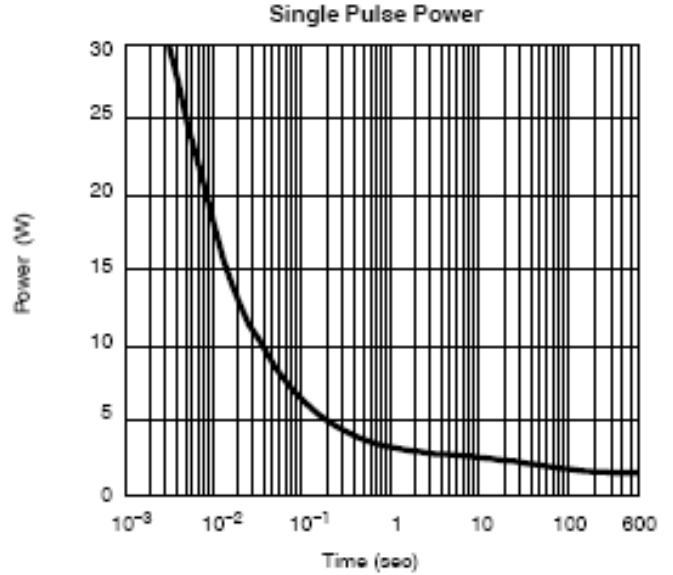
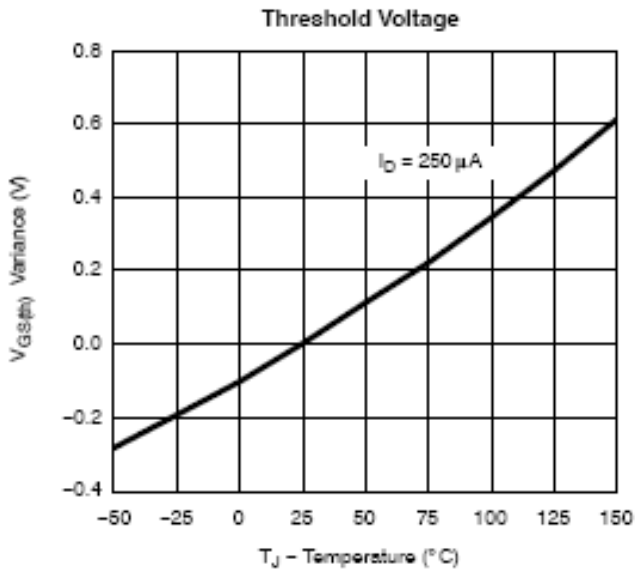
TYPICAL CHARACTERISTICS





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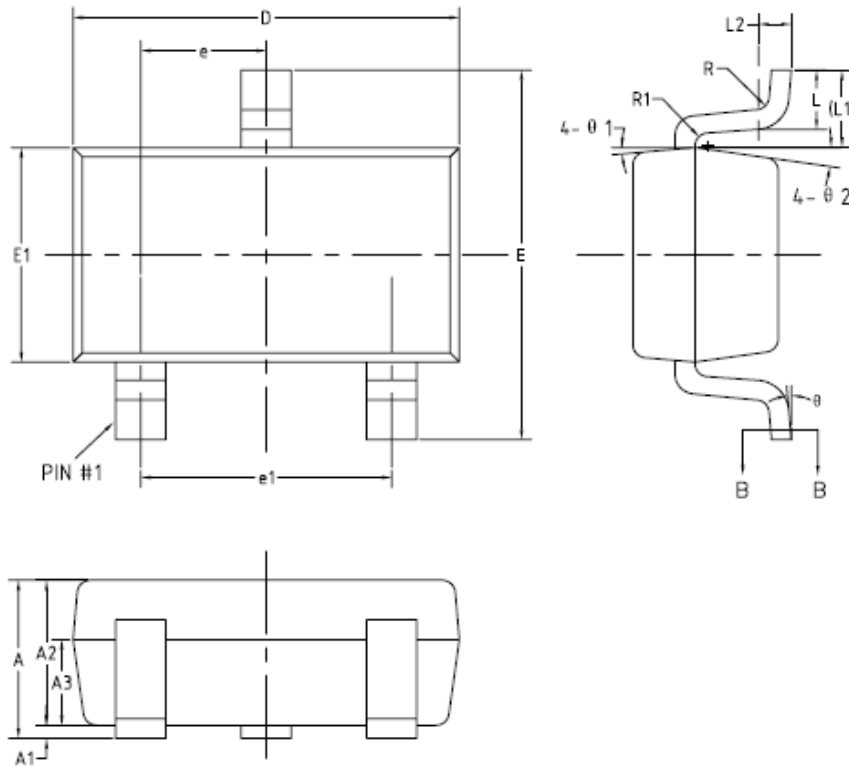




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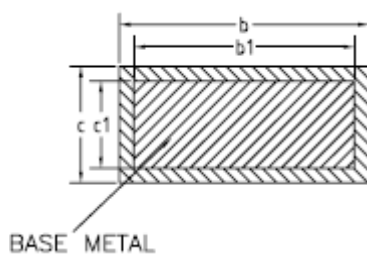
SOT-23-3L PACKAGE OUTLINE



COMMON DIMENSIONS

(UNITS OF MEASURE=MILLIMETER)

SYMBOL	MIN	NOM	MAX
A	-	-	1.45
A1	0.00	-	0.15
A2	0.90	1.10	1.30
A3	0.60	0.65	0.70
b	0.30	-	0.45
b1	0.30	-	0.45
c	0.12	-	0.19
c1	0.11	0.13	0.15
D	2.85	2.95	3.05
E	2.60	2.80	3.00
E1	1.55	1.65	1.75
e	0.86	0.95	1.05
e1	1.80	1.90	2.00
L	0.35	0.45	0.60
L1	0.7REF		
L2	0.25BSC		
R	0.05	-	-
R1	0.05	-	0.20
θ	0°	-	8°
θ 1	8°	10°	12°
θ 2	8°	10°	12°





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