

DESCRIPTION

The SPN3406 is the N-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.

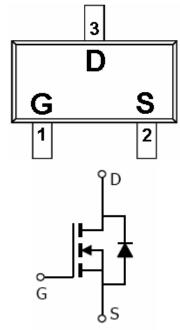
APPLICATIONS

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

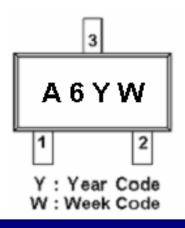
FEATURES

- 30V/5.4A, RDS(ON)= $40m\Omega@VGS=10V$
- $30V/4.6A, RDS(ON) = 50m\Omega(a)VGS = 4.5V$
- 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





PIN DESCRIPTIONPinSymbolDescription1GGate2SSource3DDrain

ORDERING INFORMATION

Part Number	Package	Part Marking
SPN3406S23RG	SOT-23-3L	A6YW

Week Code : $A \sim Z(1 \sim 26)$; $a \sim z(27 \sim 52)$

* SPN3406S23RG : Tape Reel ; Pb – Free

ABSOULTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

Parameter Drain-Source Voltage		Symbol	Typical	Unit
		Vdss	30	V
Gate –Source Voltage		VGSS	±20	V
Continuous Durin Compat($T_{T}=150^{\circ}$ C)	Та=25°С	In	4.0	
Continuous Drain Current(TJ=150°C)	TA=70°C	- Id	3.2	Α
Pulsed Drain Current		Ідм	25	А
Continuous Source Current(Diode Conduction)		Is	1.7	А
Derror Dissingtion	Та=25°С	- Pd	2.0	W/
Power Dissipation	Та=70°С		1.3	W
Operating Junction Temperature		TJ	150	°C
Storage Temperature Range		Tstg	-55/150	°C
Thermal Resistance-Junction to Ambient		Reja	90	°C/W

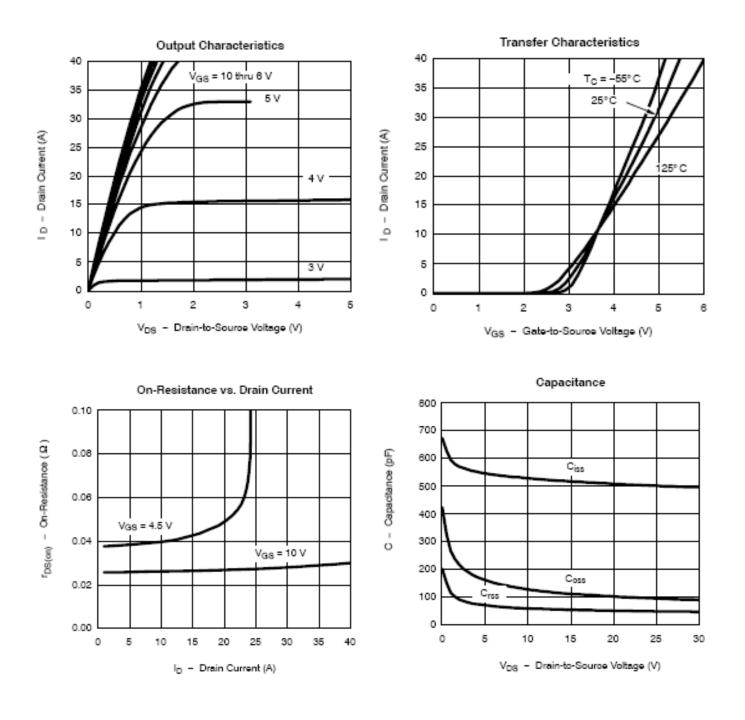


ELECTRICAL CHARACTERISTICS

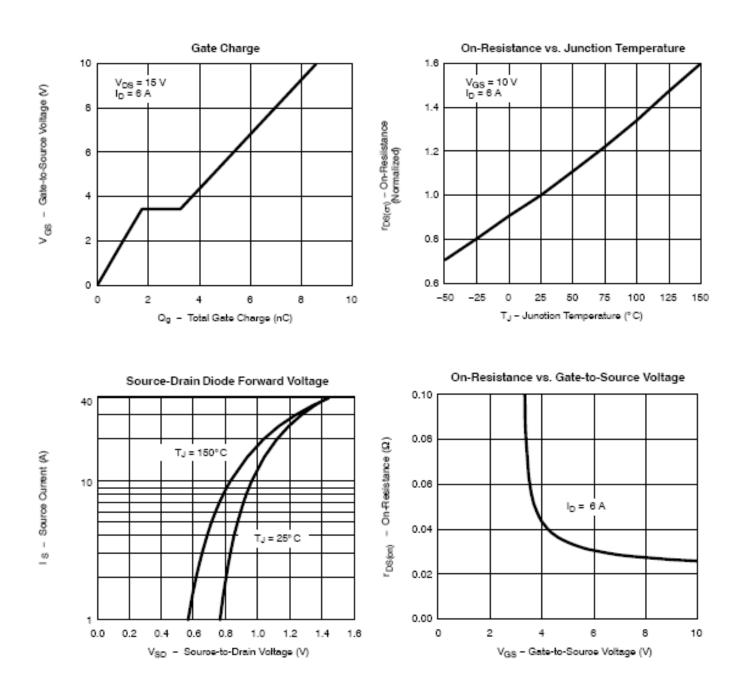
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Parameter	Symbol	Conditions	Min.	Тур	Max.	Unit
Static			•			
Drain-Source Breakdown Voltage	V(BR)DSS	VGS=0V,ID=250uA	30			V
Gate Threshold Voltage	VGS(th)	VDS=VGS,ID=250uA	1.0		3.0	v
Gate Leakage Current	Igss	VDS=0V,VGS=±20V			±100	nA
Zero Gate Voltage Drain Current	Idss	VDS=24V,VGS=1.0V VDS=24V,VGS=0.0V			1 10	uA
On-State Drain Current	ID(on)	$T_{J}=55^{\circ}C$ $V_{DS} \ge 4.5V, V_{GS}=4.5V$	10		10	A
Drain-Source On-Resistance	RDS(on)	$V_{GS} = 10V,ID=4.0A$ $V_{GS} = 4.5V,ID=3.6A$		0.028	0.040	Ω
Forward Transconductance	gfs	VDS=4.5V,ID=5.4A		12		S
Diode Forward Voltage	Vsd	Is=1.7A,VGs=0V		0.8	1.2	V
Dynamic						
Total Gate Charge	Qg			10	18	nC
Gate-Source Charge	Qgs	VDS=15VGS=10V ID=6.7A		1.6		
Gate-Drain Charge	Qgd	1D-0.77		3.2		
Input Capacitance	Ciss			450		
Output Capacitance	Coss	VDS=15VGS=0V f=1MHz		240		pF
Reverse Transfer Capacitance	Crss			38		
	td(on)			7	15	- ns
Turn-On Time	tr	$V_{DD}=15RL=15$		10	20	
Turn Off Time	td(off)	$ID \equiv 1.0 A, VGEN = 10$ $RG = 6\Omega$		20	40	
Turn-Off Time	tf]		11	20	

TYPICAL CHARACTERISTICS

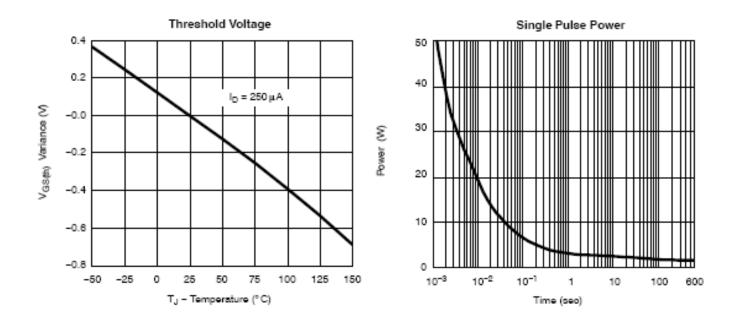


TYPICAL CHARACTERISTICS

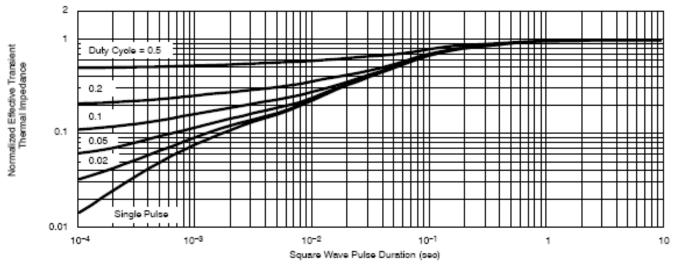


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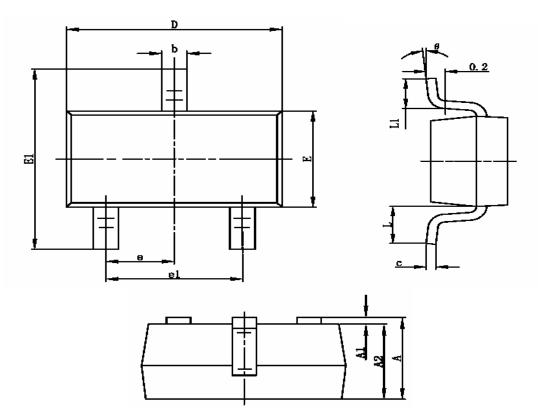


Normalized Thermal Transient Impedance, Junction-to-Foot





SOT-23-3L PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches		
	Min	Max	Min	Max	
А	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	
С	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	
е	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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