SPN6338A

Dual N-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPN6338A is the Dual N-Channel 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 and provide superior switching performance. These devices are particularly suited for low voltage applications such as notebook computer power management and other battery powered circuits where high-side switching , low in-line power loss, and resistance to transients are needed.

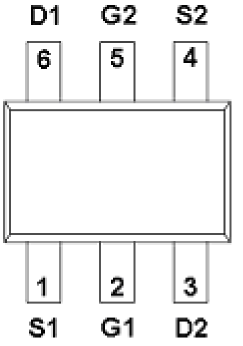
APPLICATIONS

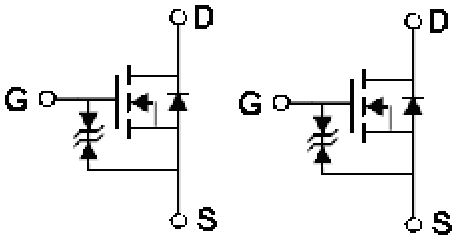
- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

FEATURES

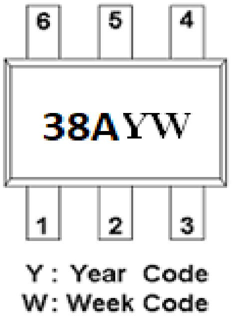
- N-Channel
  20V/0.95A,$R_{DS(ON)}$=380mΩ@V_{GS}=4.5V
  20V/0.75A,$R_{DS(ON)}$=450mΩ@V_{GS}=2.5V
  20V/0.65A,$R_{DS(ON)}$=800mΩ@V_{GS}=1.8V
- Super high density cell design for extremely low $R_{DS\ (ON)}$
- Exceptional on-resistance and maximum DC current capability
- ESD protected
- SOT-363 (SC-70-6L) package design

PIN CONFIGURATION (SOT-363/SC-70-6L)





PART MARKING



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PIN DESCRIPTION

Pin	Symbol	Description
1	S1	Source 1
2	G1	Gate 1
3	D2	Drain 2
4	S2	Source 2
5	G2	Gate 2
6	D1	Drain1

ORDERING INFORMATION

Part Number	Package	Part Marking
SPN6338AS36RGB	SOT-363	38A

※ Week Code : A ~ Z(1 ~ 26) ; a ~ z(27 ~ 52)
※ SPN6338AS36RGB : Tape Reel ; Pb – Free ; Halogen – Free

ABSOULTE MAXIMUM RATINGS
(T_A=25℃ Unless otherwise noted)

Parameter		Symbol	Typical	Unit
Drain-Source Voltage		V_{DSS}	20	V
Gate –Source Voltage		V_{GSS}	±12	V
Continuous Drain Current(TJ=150℃)	T_A=25℃	I_D	1.2	A
	T_A=80℃		0.9	
Pulsed Drain Current		I_{DM}	4	A
Continuous Source Current(Diode Conduction)		I_S	0.6	A
Power Dissipation	T_A=25℃	P_D	0.35	W
	T_A=70℃		0.19	
Operating Junction Temperature		T_J	-55/150	℃
Storage Temperature Range		T_{STG}	-55/150	℃

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	20			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250uA	0.35		1.0	V
Gate Leakage Current	I_{GSS}	V_{DS}=0V,V_{GS}=±12V			10	uA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=16V,V_{GS}=0V			1	uA
		V_{DS}=16V,V_{GS}=0V T_J=55℃			5	
On-State Drain Current	$I_{D(on)}$	V_{DS}≥ 4.5V,V_{GS} =5V	0.7			A
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=4.5V,I_D=0.95A		0.26	0.38	Ω
		V_{GS}=2.5V,I_D=0.75A		0.32	0.45	
		V_{GS}=1.8V,I_D=0.65A		0.42	0.80	
Forward Transconductance	gfs	V_{DS}=10V,I_D=0.4A		1.0		S
Diode Forward Voltage	V_{SD}	I_S=0.15A,V_{GS}=0V		0.8	1.2	V
Dynamic						
Total Gate Charge	Q_g	V_{DS}=10V,V_{GS}=4.5V, I_D=0.6A		1.2	1.5	nC
Gate-Source Charge	Q_{gs}			0.2		
Gate-Drain Charge	Q_{gd}			0.3		
Input Capacitance	C_{iss}	V_{DS}=16V,f=1MHz, V_{GS}=0V		110		pF
Output Capacitance	C_{oss}			60		
Reverse Transfer Capacitance	C_{rss}			38		
Turn-On Time	$t_{d(on)}$	V_{DD}=10V,R_L=10Ω , I_D=0.5A V_{GEN}=4.5V,R_G=6Ω		5	10	nS
	t_r			8	15	
Turn-Off Time	$t_{d(off)}$			10	18	
	t_f			1.2	2.8	

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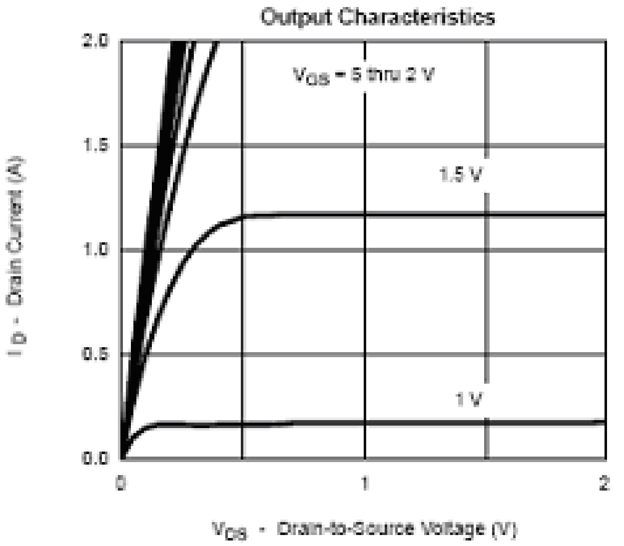
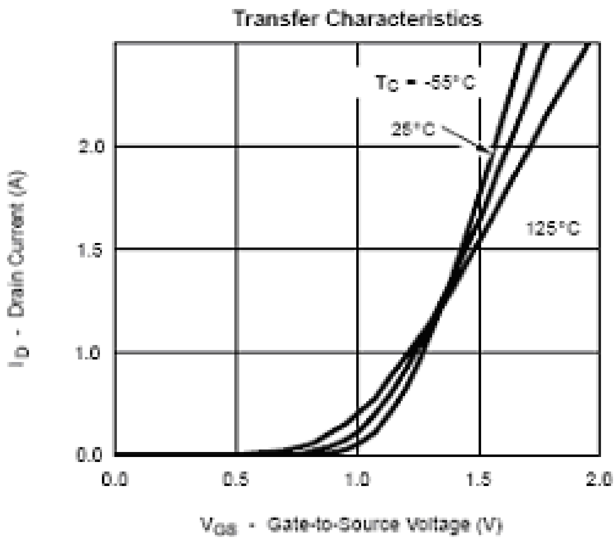
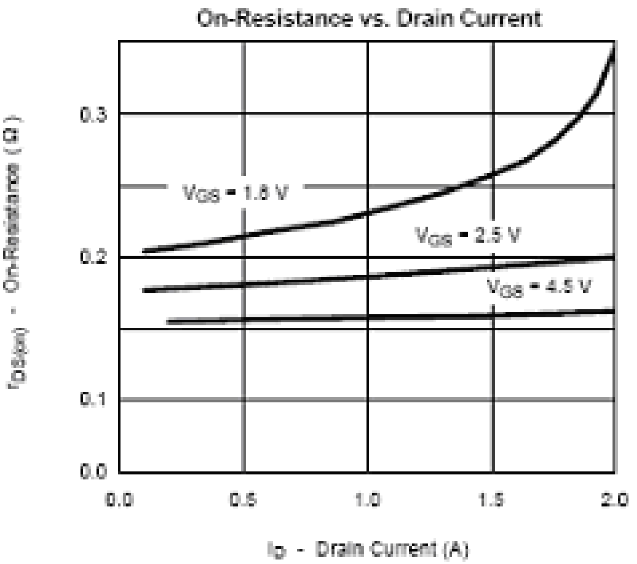
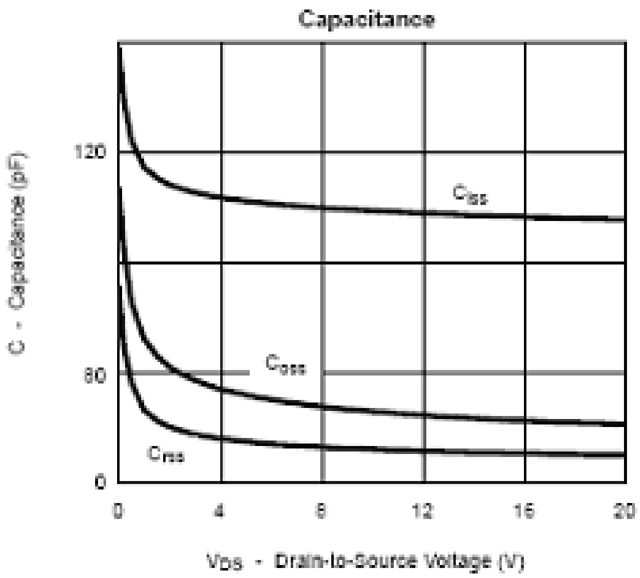
TYPICAL CHARACTERISTICS









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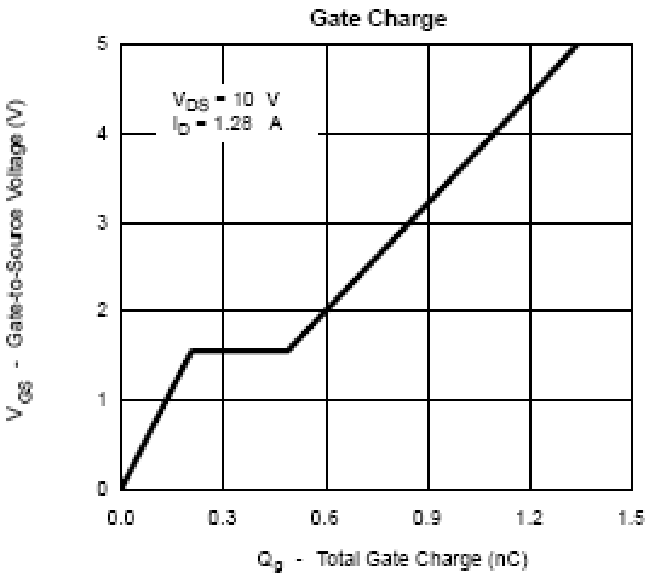

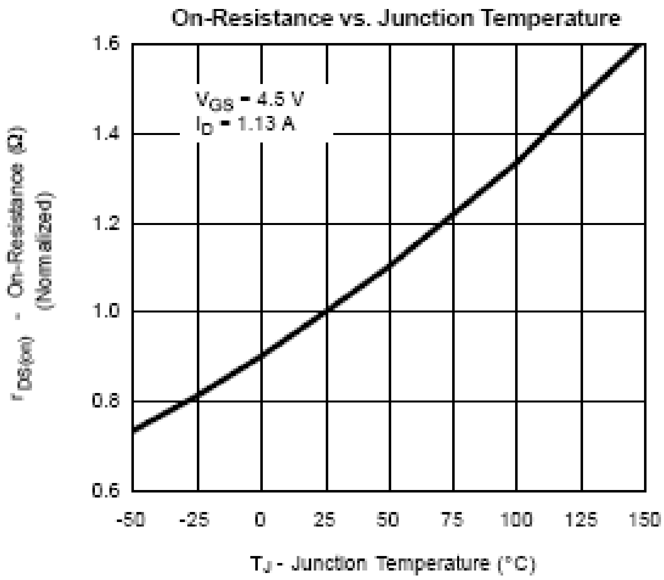

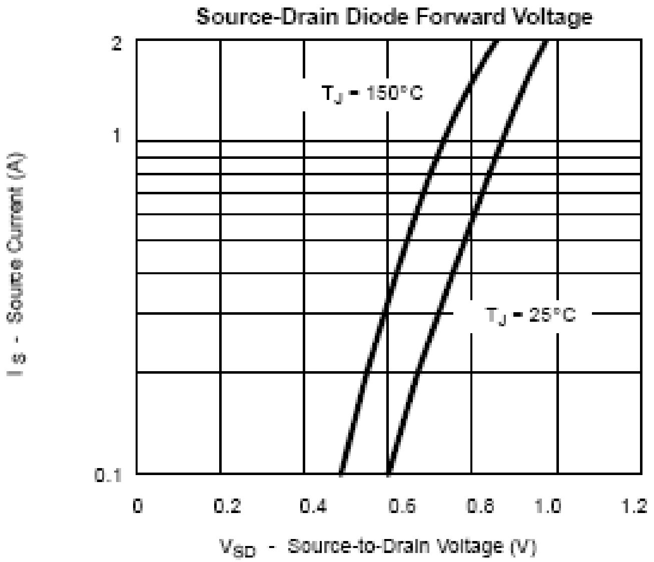

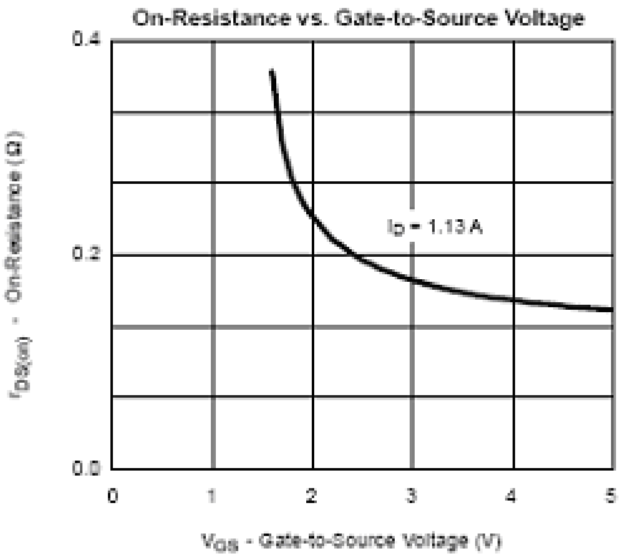

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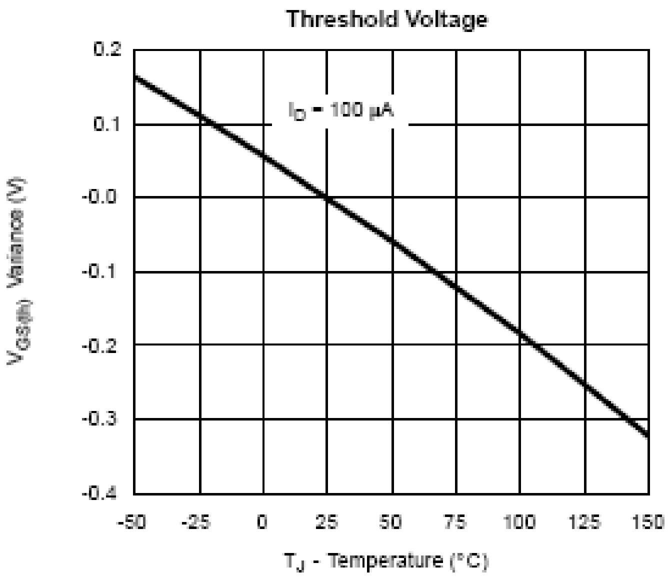

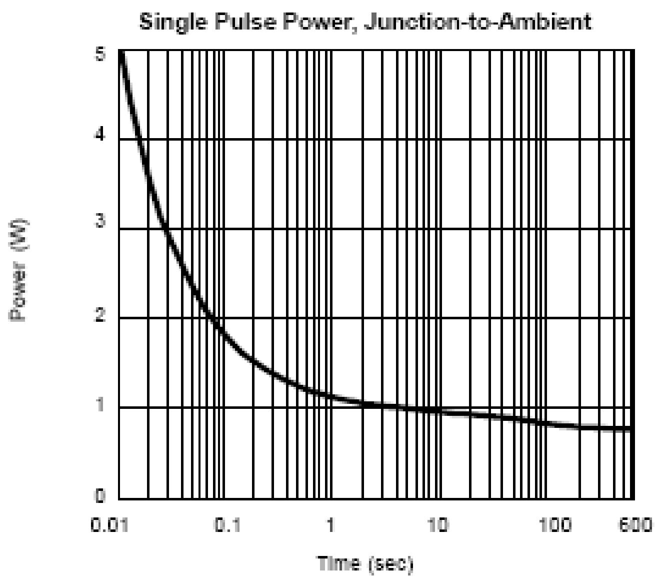

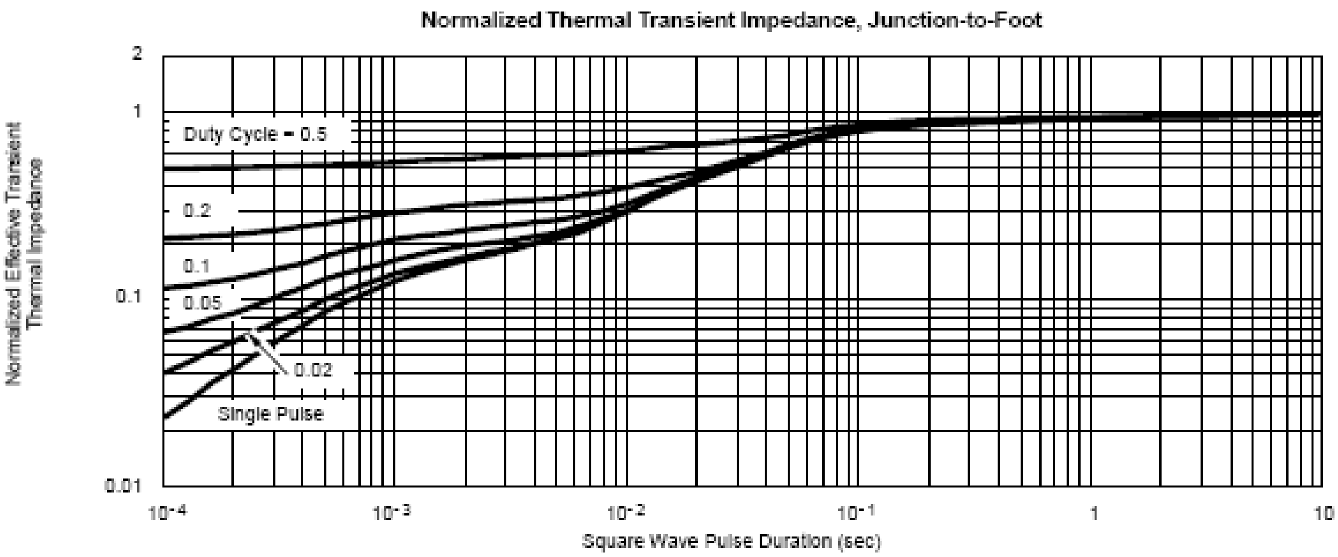

SYNC Power Corporation
7F-2, No.3-1, Park Street
NanKang District (NKSP), Taipei, Taiwan 115
Phone: 886-2-2655-8178
Fax: 886-2-2655-8468
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