



SPN6338

Dual N-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPN6338 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.

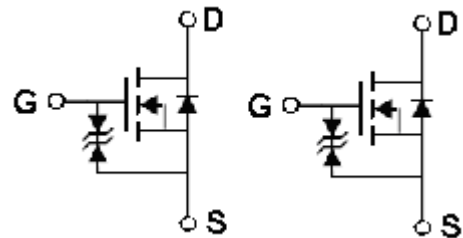
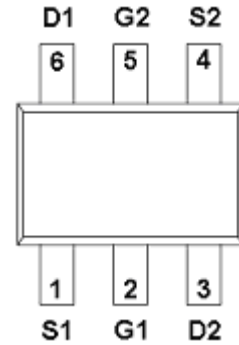
FEATURES

- ◆ N-Channel
30V/0.95A, $R_{DS(ON)}=550m\Omega@V_{GS}=4.5V$
30V/0.75A, $R_{DS(ON)}=650m\Omega@V_{GS}=2.5V$
30V/0.65A, $R_{DS(ON)}=850m\Omega@V_{GS}=1.8V$
- ◆ 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

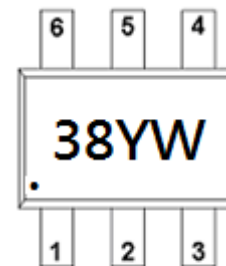
APPLICATIONS

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

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



PART MARKING



Y : Year Code
W : Week Code



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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
SPN6338S36RGB	SOT-363	38

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

※ SPN6338S36RGB : Tape Reel ; Pb – Free ; Halogen – Free

ABSOLUTE MAXIMUM RATINGS

($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Parameter	Symbol	Typical	Unit
Drain-Source Voltage	V_{DSS}	30	V
Gate –Source Voltage	V_{GSS}	± 12	V
Continuous Drain Current($T_J=150^{\circ}\text{C}$)	I_D	$T_A=25^{\circ}\text{C}$	1.2
		$T_A=80^{\circ}\text{C}$	0.9
Pulsed Drain Current	I_{DM}	4	A
Continuous Source Current(Diode Conduction)	I_S	0.6	A
Power Dissipation	P_D	$T_A=25^{\circ}\text{C}$	0.35
		$T_A=70^{\circ}\text{C}$	0.19
Operating Junction Temperature	T_J	-55/150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55/150	$^{\circ}\text{C}$



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ELECTRICAL CHARACTERISTICS

(TA=25°C Unless otherwise noted)

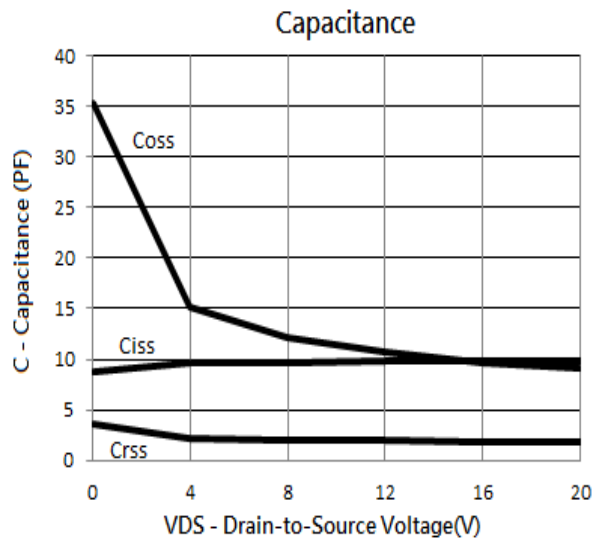
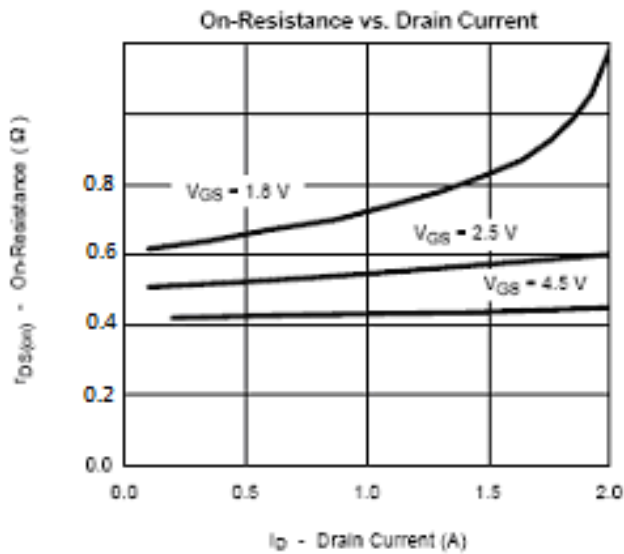
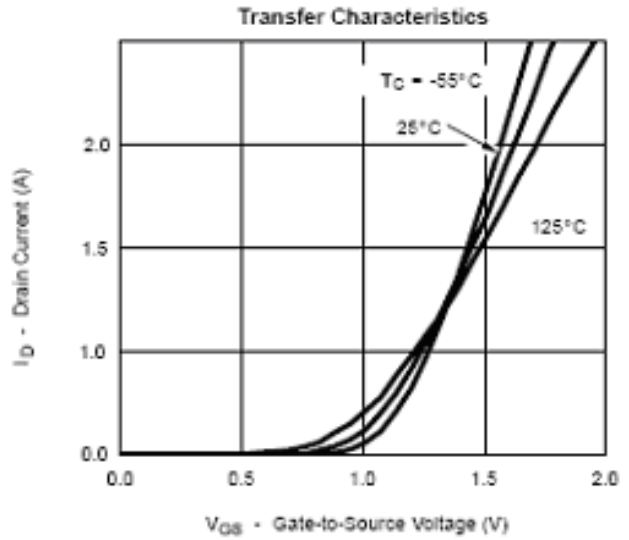
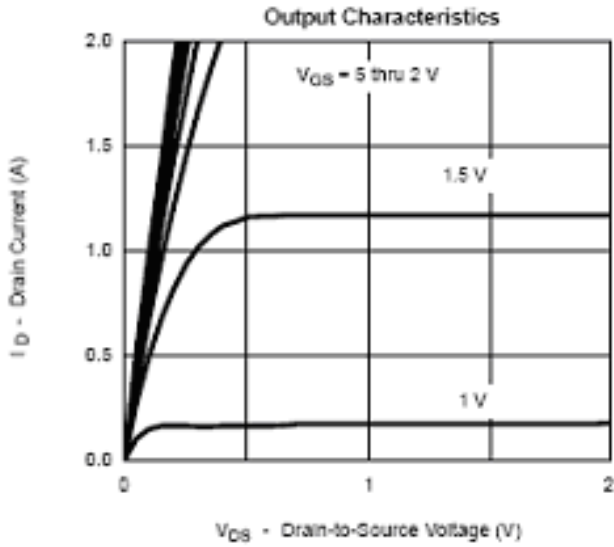
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.35		1.0	
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 12V$			10	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=24V, V_{GS}=0V$			1	μA
		$V_{DS}=24V, V_{GS}=0V$ $T_J=55^\circ C$			5	
On-State Drain Current	$I_{D(on)}$	$V_{DS} \geq 4.5V, V_{GS}=5V$	0.7			A
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=0.95A$		0.45	0.55	Ω
		$V_{GS}=2.5V, I_D=0.75A$		0.50	0.65	
		$V_{GS}=1.8V, I_D=0.65A$		0.70	0.85	
Forward Transconductance	g_{fs}	$V_{DS}=10V, I_D=0.4A$		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}	$V_{DS}=10V, V_{GS}=0V$ $f=1MHz$		7.2		pF
Output Capacitance	C_{oss}			13.5		
Reverse Transfer Capacitance	C_{rss}			1.6		
Turn-On Time	$t_{d(on)}$	$V_{DD}=10V, R_L=10\Omega,$ $I_D=0.5A$ $V_{GEN}=4.5V, R_G=6\Omega$		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

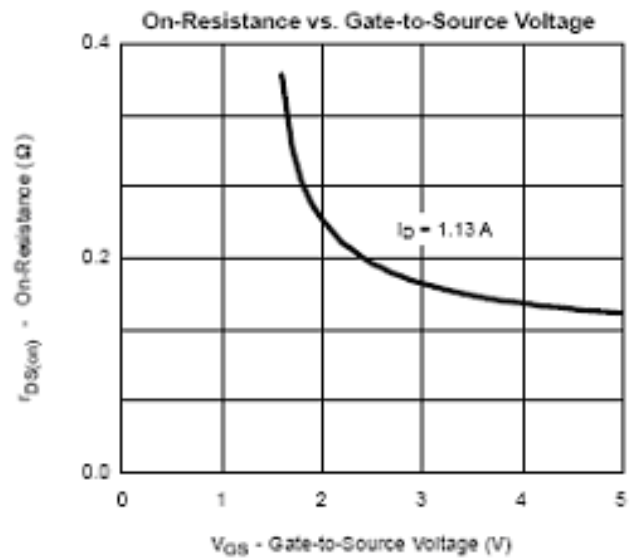
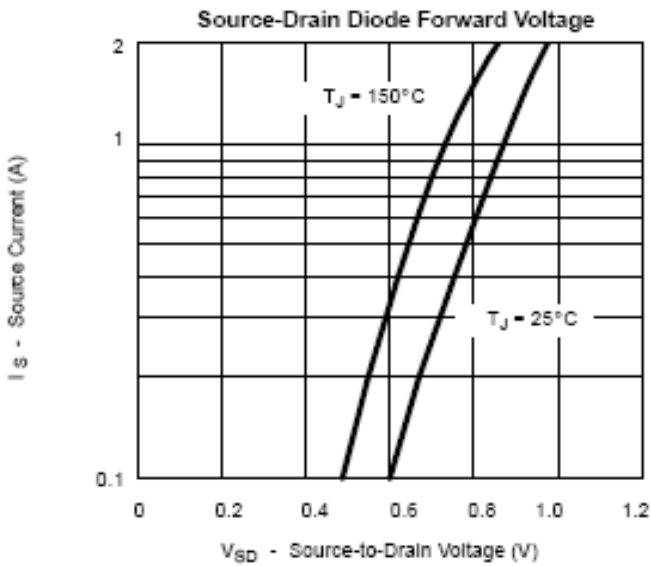
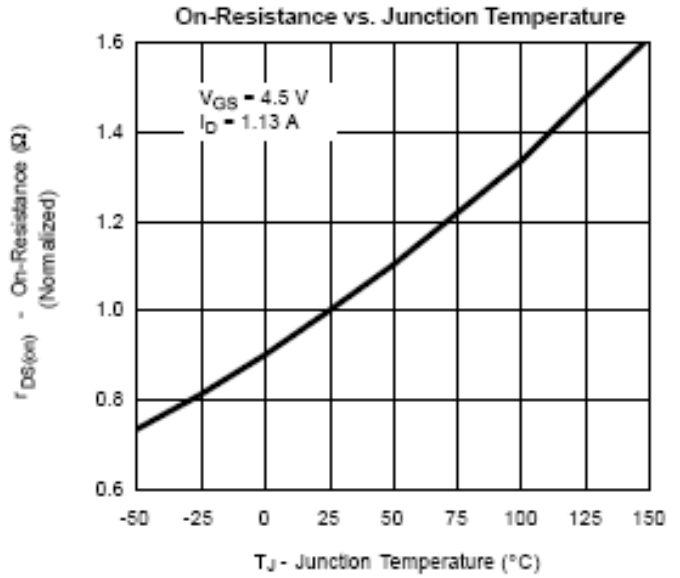
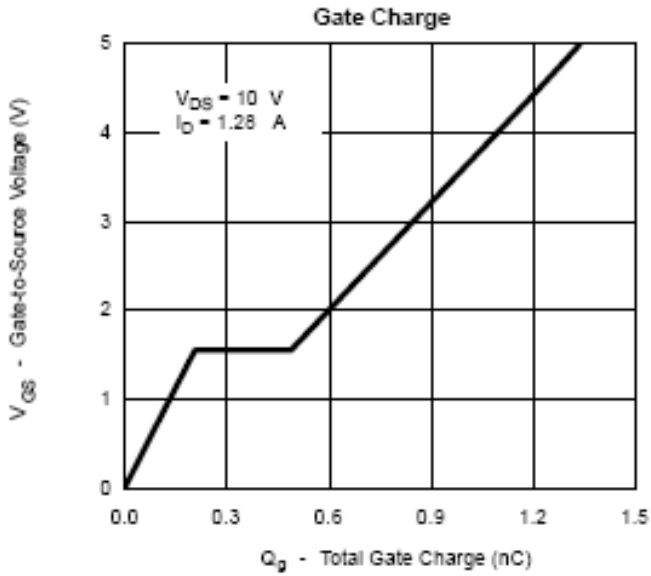




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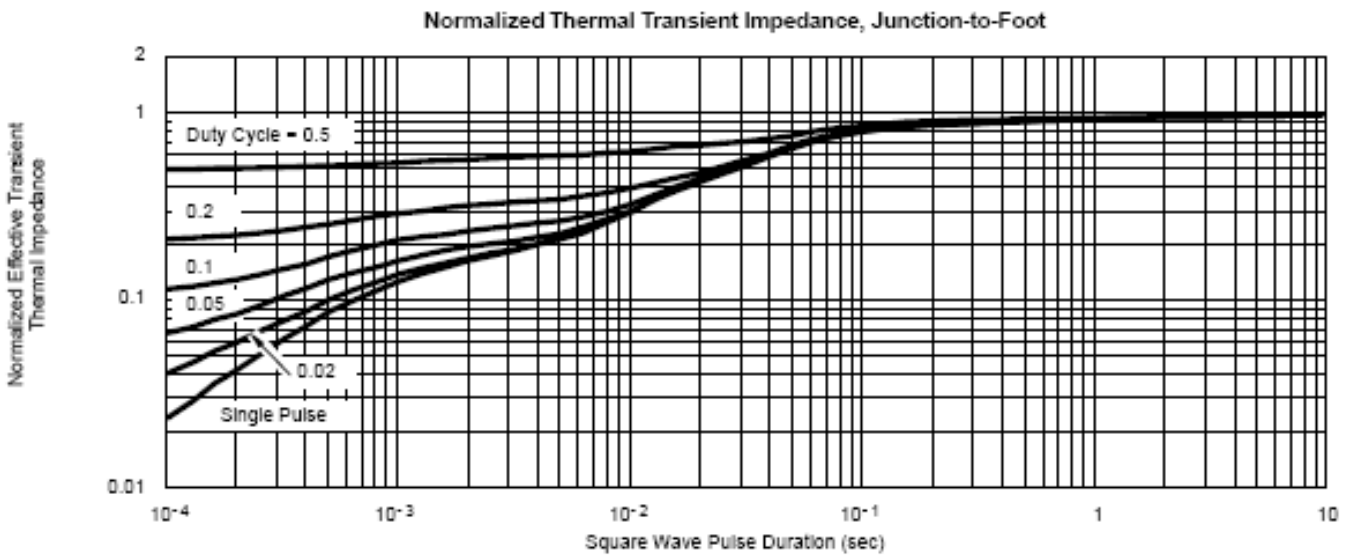
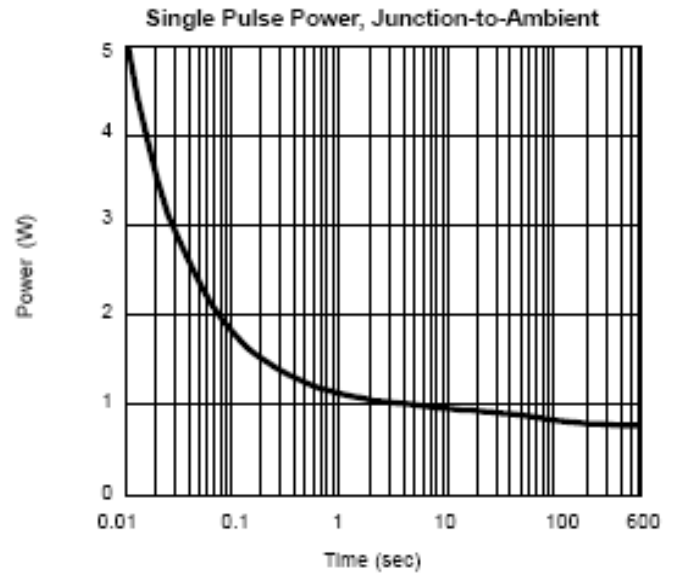
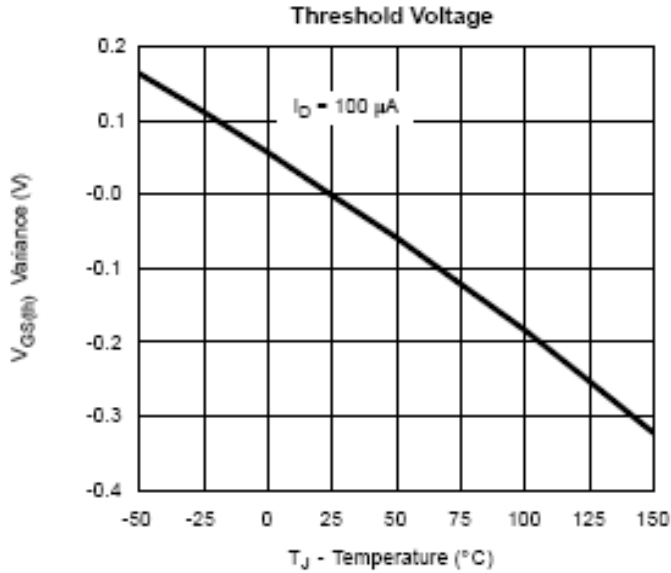




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TYPICAL CHARACTERISTICS





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