



SPN3448

N-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPN3448 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.

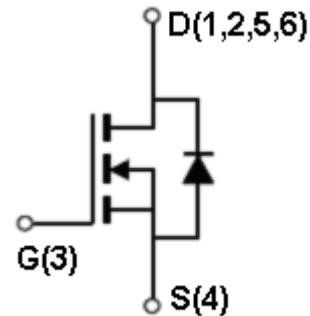
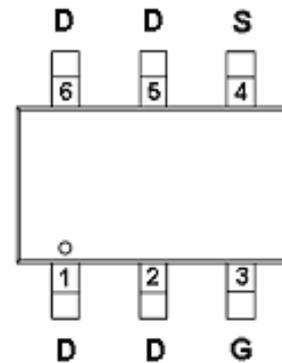
FEATURES

- ◆ 20V/4.0A, $R_{DS(ON)}=26m\Omega@V_{GS}=4.5V$
- ◆ 20V/3.0A, $R_{DS(ON)}=35m\Omega@V_{GS}=2.5V$
- ◆ 20V/2.0A, $R_{DS(ON)}=50m\Omega@V_{GS}=1.8V$
- ◆ Super high density cell design for extremely low $R_{DS(ON)}$
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ SOT-23-6L package design

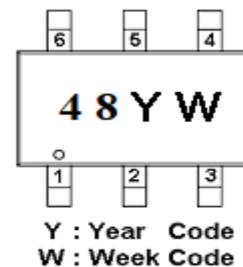
APPLICATIONS

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

PIN CONFIGURATION(SOT-23-6L)



PART MARKING





SPN3448

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PIN DESCRIPTION

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

ORDERING INFORMATION

Part Number	Package	Part Marking
SPN3448S26RGB	SOT-23-6L	48

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

※ SPN3448S26RGB : Tape Reel ; Pb – Free ; Halogen – Free

ABSOLUTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

Parameter	Symbol	Typical	Unit	
Drain-Source Voltage	V _{DSS}	20	V	
Gate –Source Voltage	V _{GSS}	±12	V	
Continuous Drain Current(T _J =150°C)	I _D	TA=25°C	6.8	A
		TA=70°C	4.8	
Pulsed Drain Current	I _{DM}	30	A	
Continuous Source Current(Diode Conduction)	I _S	1.6	A	
Power Dissipation	P _D	TA=25°C	2.8	W
		TA=70°C	1.8	
Operating Junction Temperature	T _J	150	°C	
Storage Temperature Range	T _{STG}	-55/150	°C	
Thermal Resistance-Junction to Ambient	R _{θJA}	105	°C/W	



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ELECTRICAL CHARACTERISTICS

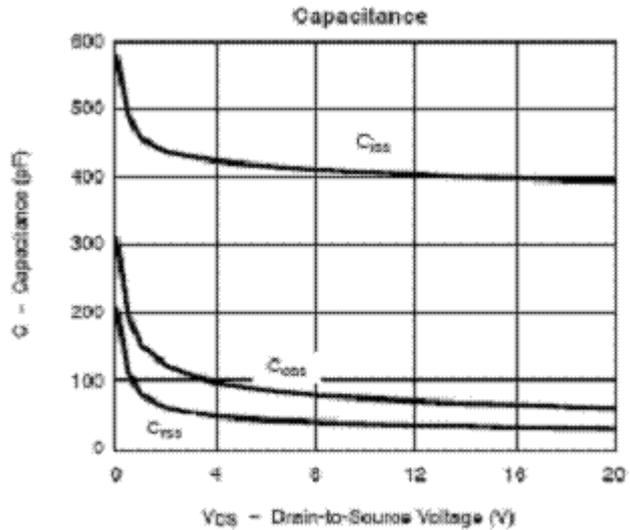
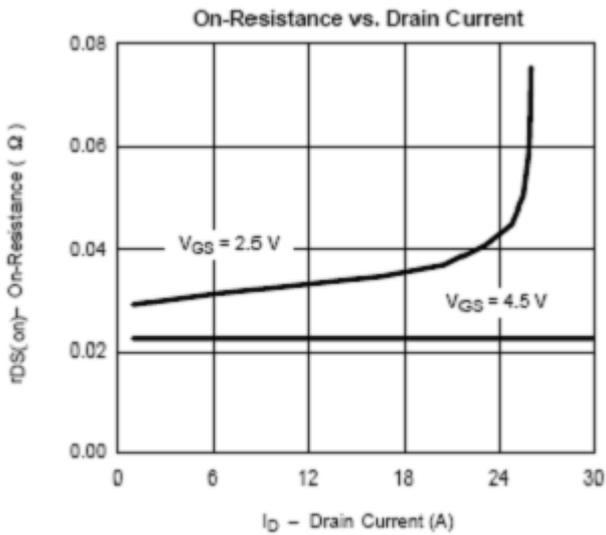
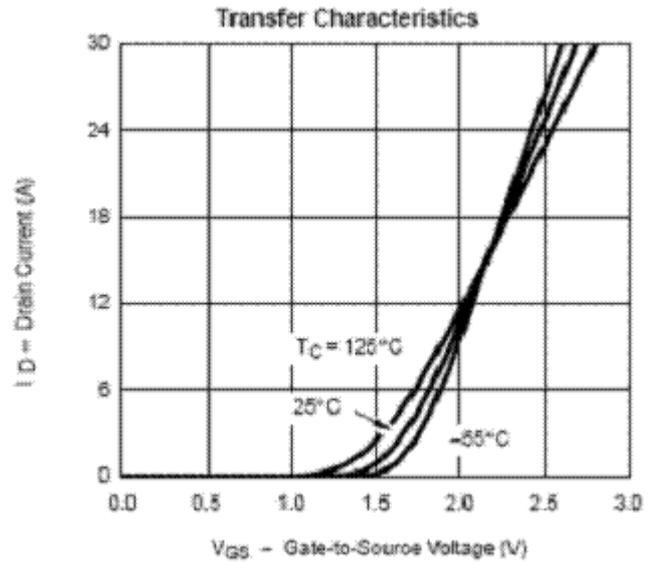
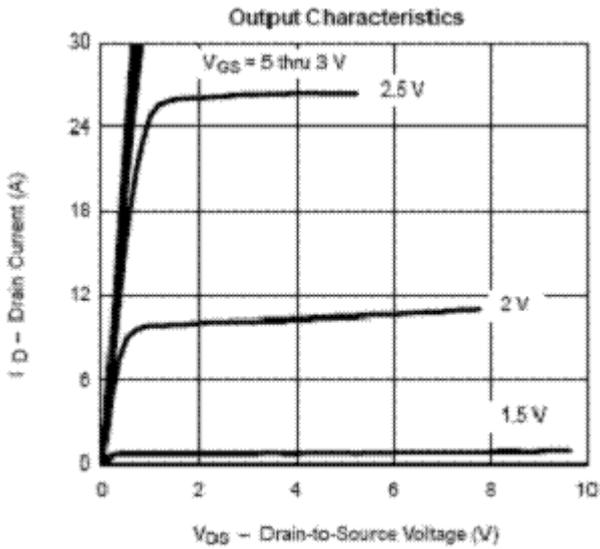
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Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	20			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.4		1.0	
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 12V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=16V, V_{GS}=0V$			1	uA
		$V_{DS}=16V, V_{GS}=0V$ $T_J=55^\circ C$			10	
On-State Drain Current	$I_{D(on)}$	$V_{DS} \leq 4.5V, V_{GS}=5V$	15			A
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=4.0A$			26	mΩ
		$V_{GS}=2.5V, I_D=3.0A$			35	
		$V_{GS}=1.8V, I_D=2.0A$			50	
Forward Transconductance	g_{fs}	$V_{DS}=5V, I_D=3.5A$		10		S
Diode Forward Voltage	V_{SD}	$I_S=1.0A, V_{GS}=0V$			1.0	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=15V, V_{GS}=4.5V$ $I_D=4.0A$		8.6		nC
Gate-Source Charge	Q_{gs}			1.37		
Gate-Drain Charge	Q_{gd}			2.3		
Input Capacitance	C_{iss}	$V_{DS}=8V, V_{GS}=0V$ $f=1MHz$		575		pF
Output Capacitance	C_{oss}			84		
Reverse Transfer Capacitance	C_{rss}			22		
Turn-On Time	$t_{d(on)}$	$V_{DD}=10V, I_D=3.0A,$ $V_{GEN}=4.5V, R_G=3.3\Omega$		5.2		nS
	t_r			34		
Turn-Off Time	$t_{d(off)}$			23		
	t_f			9.2		



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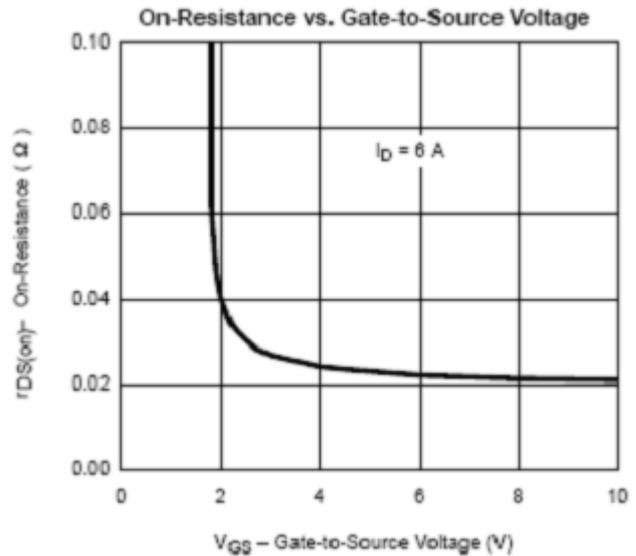
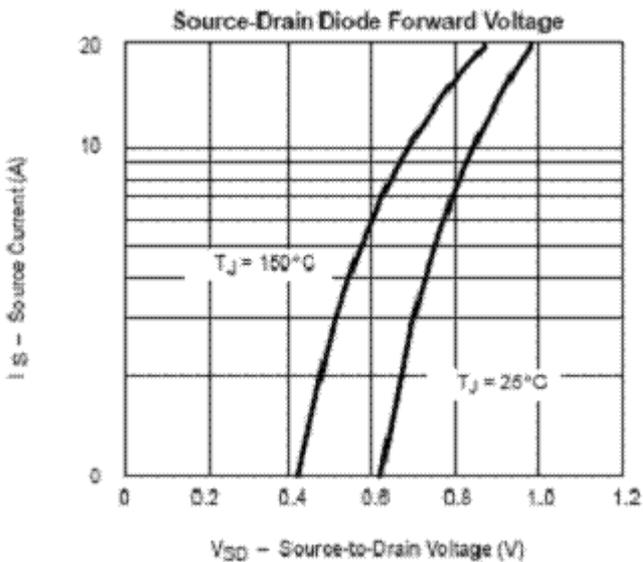
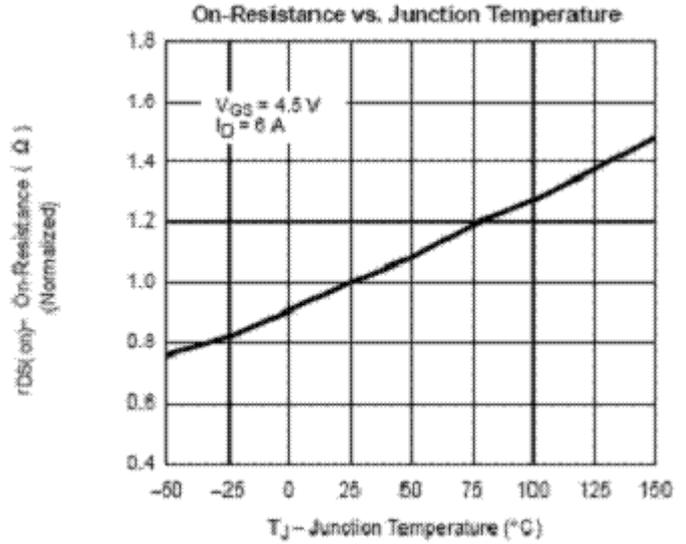
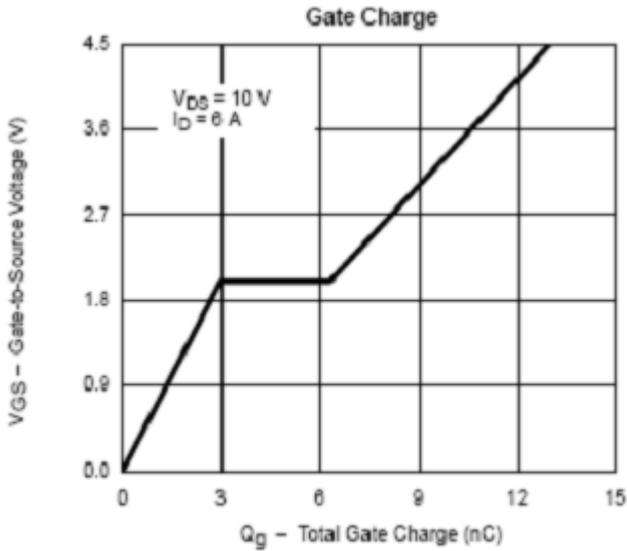
TYPICAL CHARACTERISTICS





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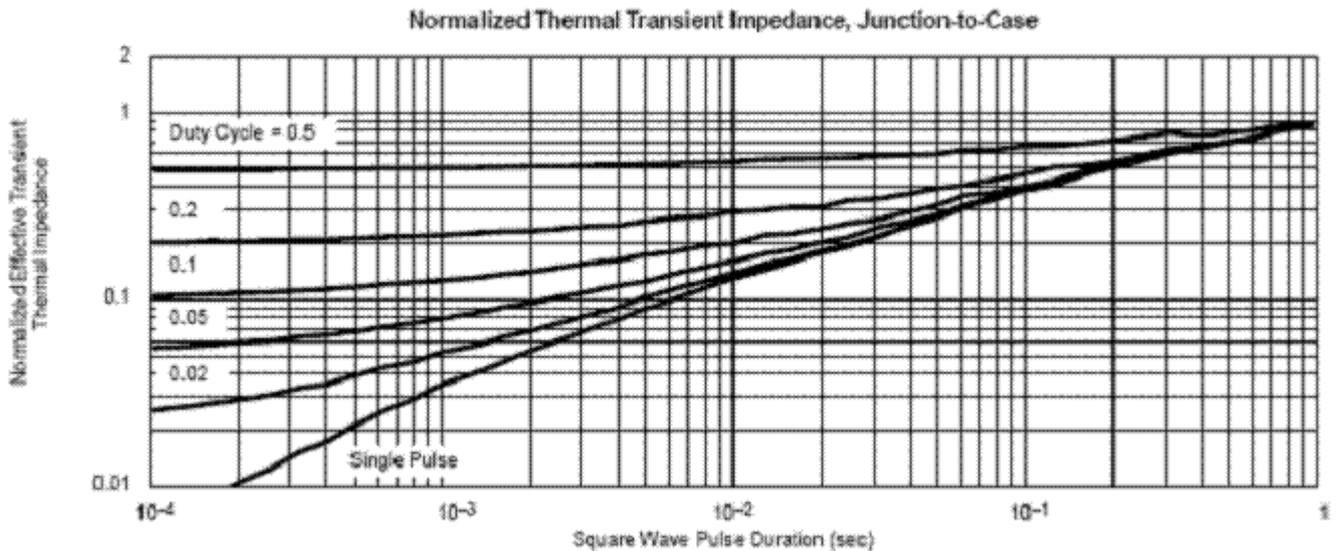
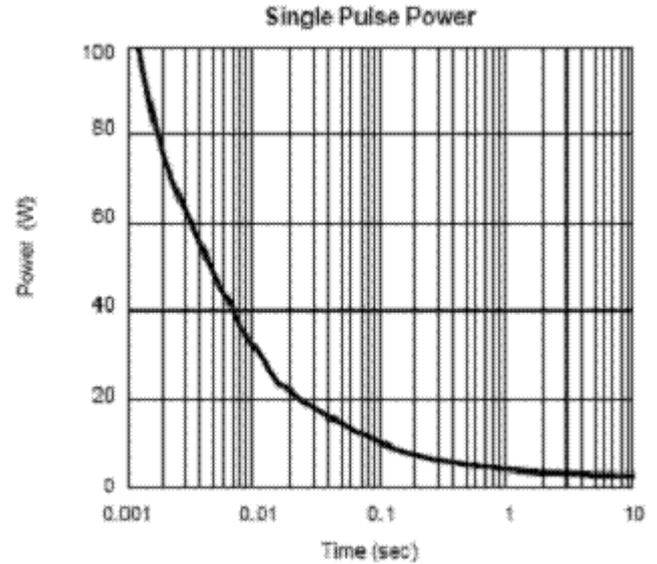
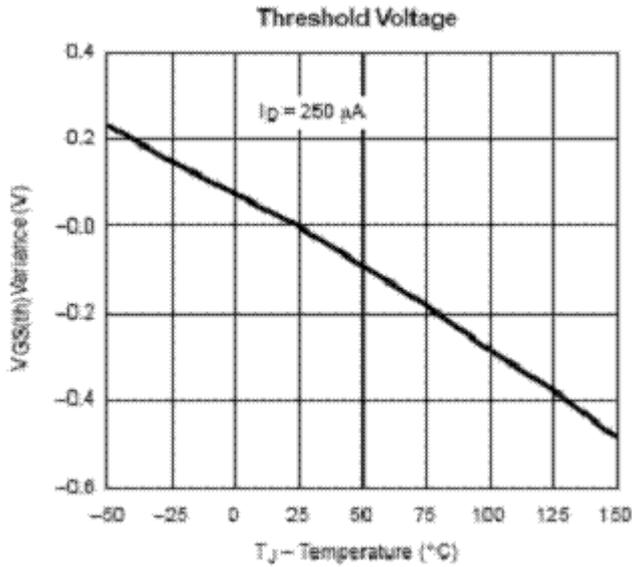
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