STN6562

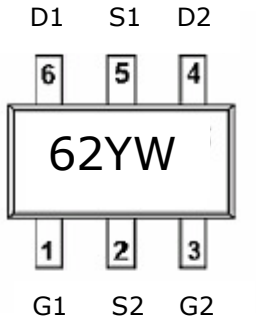
Dual N Channel Enhancement Mode MOSFET

4.0A

DESCRIPTION

The STN6562 is the dual N-Channel enhancement mode power field effect transistor which is 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.

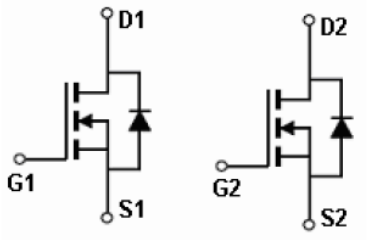
PIN CONFIGURATION
TSOP-6



Y: Year
A: Week Code

FEATURE

- 30V/4.0A, $R_{DS(ON)}$=65mohm@VGS=10V
- 30V/2.2A, $R_{DS(ON)}$=75mohm@VGS=4.5V
- 30V/1.5A, $R_{DS(ON)}$=105mohm@VGS=2.5V
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional an-resistance and maximum DC current capability
- TSOP-6 package design



n-channel **n-channel**

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ABSOULTE MAXIMUM RATINGS (Ta = 25℃ 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℃)	T_A=25℃	I_D	4.0	A
	T_A=70℃		2.0	
Pulsed Drain Current		I_{DM}	20	A
Continuous Source Current (Diode Conduction)		I_S	1.7	A
Power Dissipation	T_A=25℃	P_D	2.0	W
	T_A=70℃		1.3	
Operation Junction Temperature		T_J	-55/150	℃
Storage Temperature Range		T_{STG}	-55/150	℃
Thermal Resistance-Junction to Ambient	T≦10sec	$R_{\theta JA}$	50	℃/W
	Steady State			

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ELECTRICAL CHARACTERISTICS (Ta = 25℃ Unless otherwise noted)

Parameter	Symbol	Condition	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}=VGS,I_D=250uA	0.8		1.6	V
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℃			10	
On-State Drain Current	$I_{D(on)}$	V_{DS}≧5V,V_{GS}=10V	30			A
Drain-source On-Resistance	$R_{DS(on)}$	V_{GS}=10V,I_D=2.8A		0.056	0.065	Ω
		V_{GS}=4.5V,I_D=2.3A		0.068	0.075	
		V_{GS}=2.5V,I_D=1.8A		0.097	0.105	
Forward Transconductance	g_{fs}	V_{DS}=4.5V,I_D=2.5A		4.6		S
Diode Forward Voltage	V_{SD}	I_S=1.25A,V_{GS}=0V			1.2	V
Dynamic						
Total Gate Charge	Q_g	V_{DS}=15V,V_{GS}=4.5V, V_{DS}=2.0A		4.2	6	nC
Gate-Source Charge	Q_{gs}			0.6		
Gate-Drain Charge	Q_{gd}			1.7		
Input Capacitance	Ciss	V_{DS}=15V,V_{GS}=0, f=1MHz		340		pF
Output Capacitance	Coss			55		
Reverse Transfer Capacitance	Crss			41		
Turn-On Time	$T_{d(on)}$	V_{DD}=15V, R_L=15Ω, V_{GEN}=10V, R_G=3Ω		2.5		ns
	t_r			2.5		
Turn-Off Time	$T_{d(off)}$			20		
	t_f			4		

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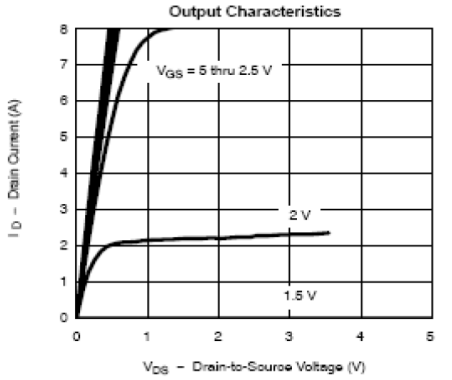
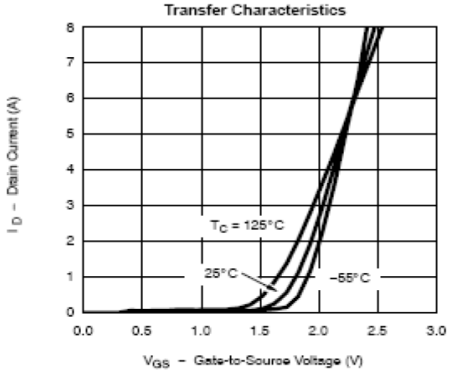
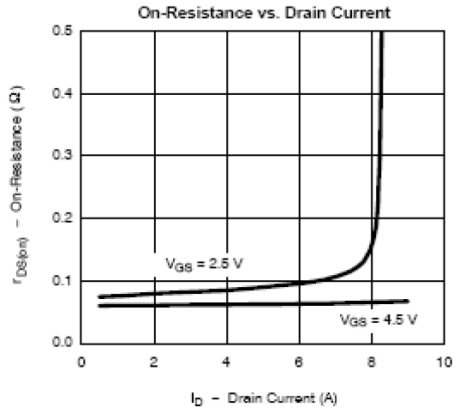
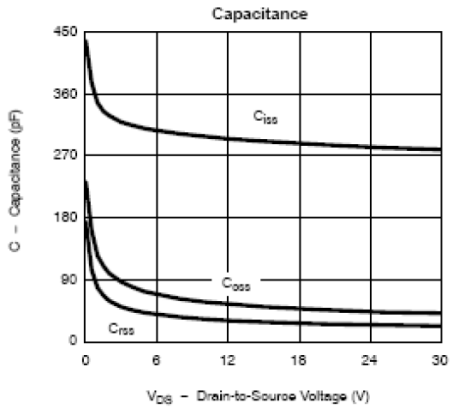
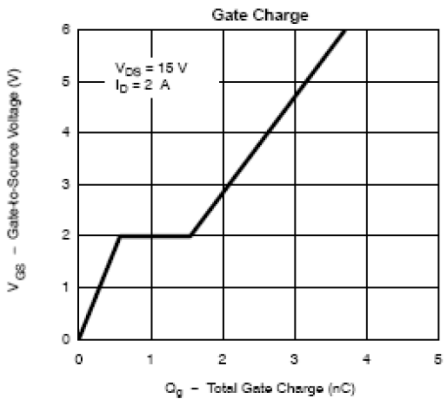
TYPICAL CHARACTERICTICS

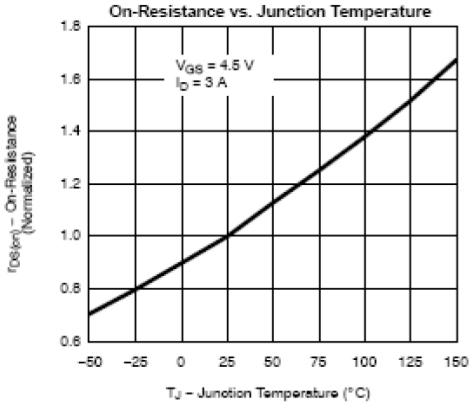












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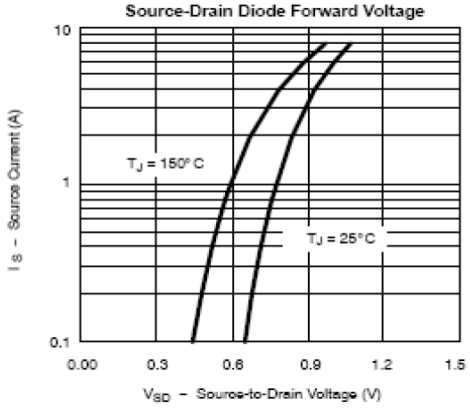

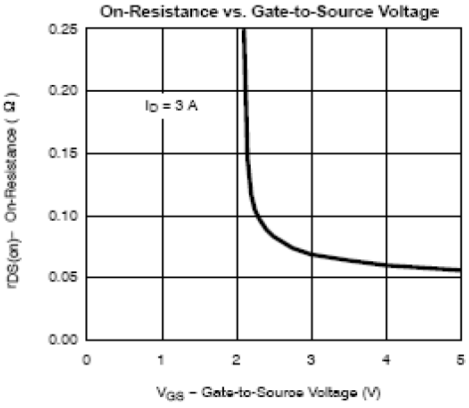

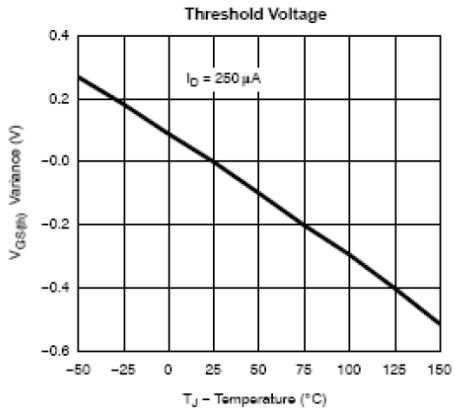

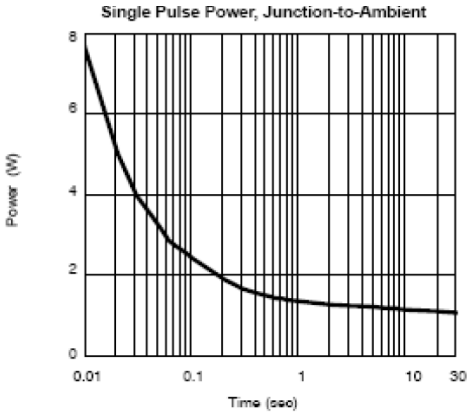

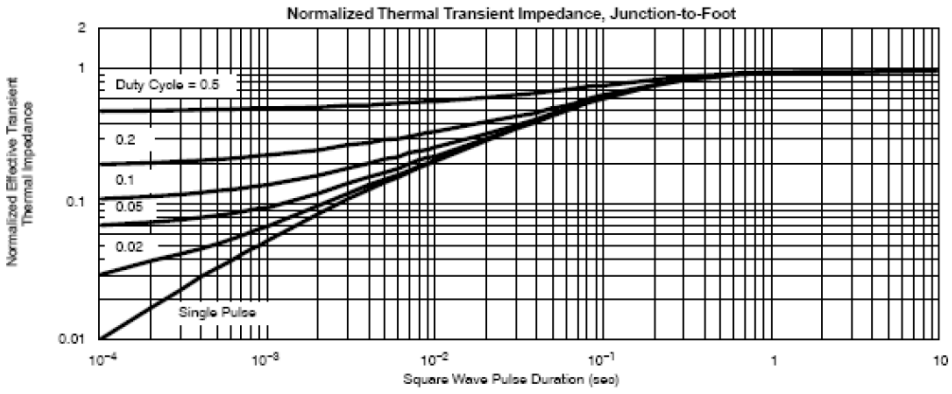

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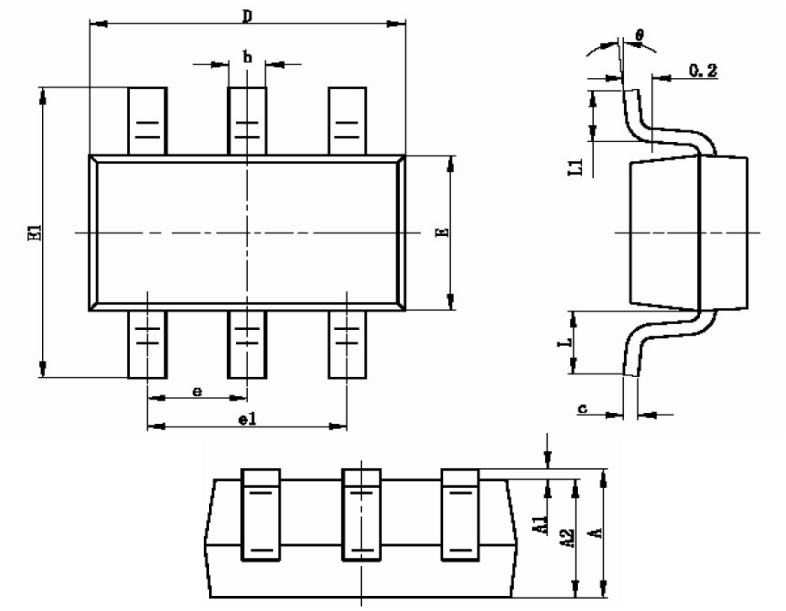
TSOP-6 PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	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
c	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
e	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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