STP6506

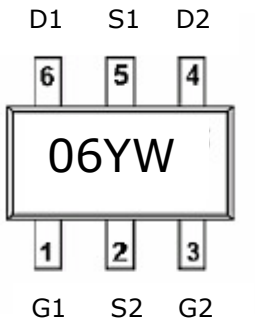
Dual P Channel Enhancement Mode MOSFET

-2.8A

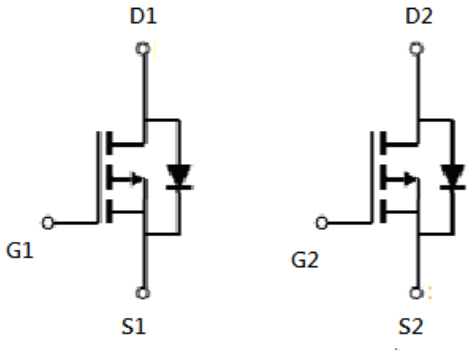
DESCRIPTION

The STC6506 is the dual P-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 and provide superior switching performance. These devices are particularly suited for low voltage application, 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.

PIN CONFIGURATION
TSOP-6



Y: Year
A: Produces Code



p-channel p-channel

FEATURE

- -30V/-2.8A, $R_{DS(ON)}$=105mohm@VGS=-10V
- -30V/-2.5A, $R_{DS(ON)}$=135mohm@VGS=-4.5V
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional an-resistance and maximum DC current capability
- TSOP-6P package design

STANSON TECHNOLOGY
120 Bentley Square, Mountain View, Ca 94040 USA
http://www.stansontech.com

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	-2.8		A
	T_A=70℃		-2.1		
Pulsed Drain Current		I_{DM}	-8		A
Continuous Source Current (Diode Conduction)		I_S	-1.4		A
Power Dissipation	T_A=25℃	P_D	1.15		W
	T_A=70℃		0.75		
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	52	℃/W
	Steady State		90	90	

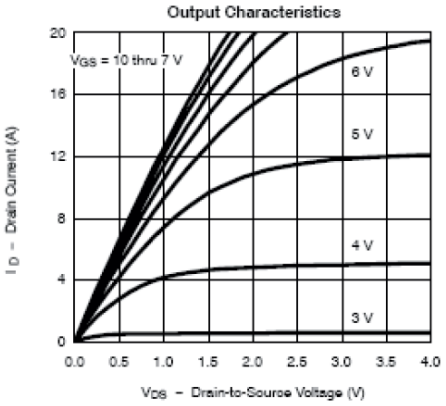
STANSON TECHNOLOGY
120 Bentley Square, Mountain View, Ca 94040 USA
http://www.stansontech.com

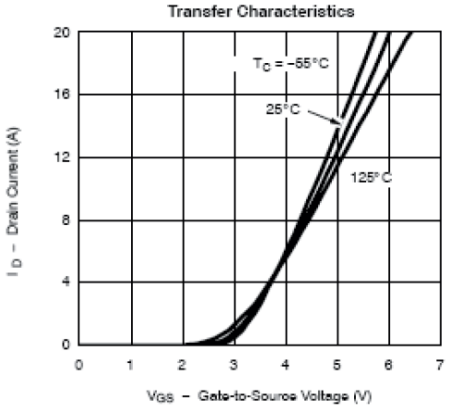
ELECTRICAL CHARACTERISTICS (Ta = 25℃ Unless otherwise noted)

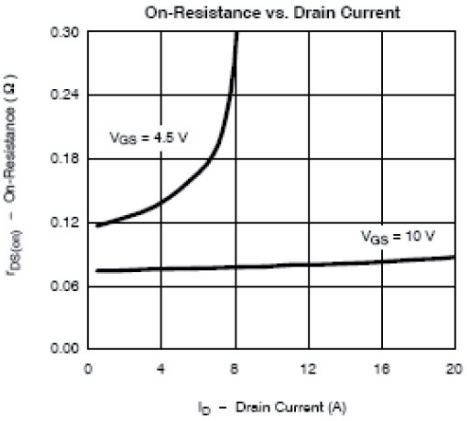
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=-250uA	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=VGS,I_D=-250uA	-1		-3	V
Gate Leakage Current	I_{GSS}	V_{DS}=0V,V_{GS}=±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-24V,V_{GS}=0V			-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	-6			A
Drain-source On-Resistance	$R_{DS(on)}$	V_{GS}=-10V,I_D=-2.8A		0.088	0.103	Ω
		V_{GS}=-4.5V,I_D=-2.5A		0.110	0.132	
Forward Transconductance	g_{fs}	V_{DS}=-10V,I_D=-2.8A		-4.0		S
Diode Forward Voltage	V_{SD}	I_S=-1.2A,V_{GS}=0V		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q_g	V_{DS}=-15V,V_{GS}=-10V, V_{DS}=-1.7A		5.8	10	nC
Gate-Source Charge	Q_{gs}			0.8		
Gate-Drain Charge	Q_{gd}			1.5		
Input Capacitance	Ciss	V_{DS}=-15V,V_{GS}=-0V, f=1MHz		226		
Output Capacitance	Coss			87		
Reverse Transfer Capacitance	Crss			19		
Turn-On Time	$T_{d(on)}$	V_{DD}=-15V, R_L=15Ω, V_{GEN}=-10V, R_G=6Ω I_D=1.0A		9	20	nS
	t_r			9	20	
Turn-Off Time	$T_{d(off)}$			18	35	
	t_f			6	20	

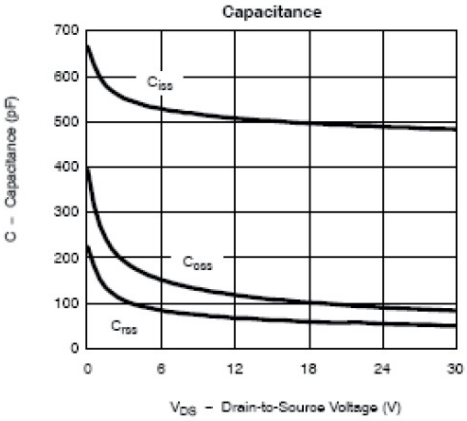
STANSON TECHNOLOGY
120 Bentley Square, Mountain View, Ca 94040 USA
http://www.stansontech.com

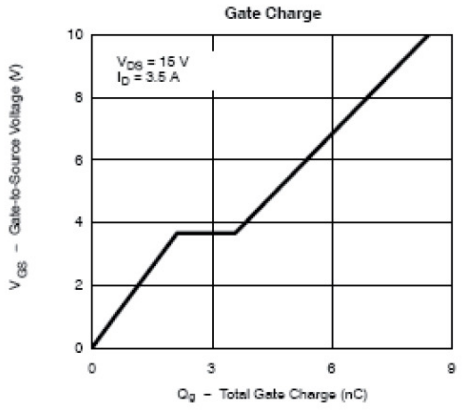
TYPICAL CHARACTERICTICS

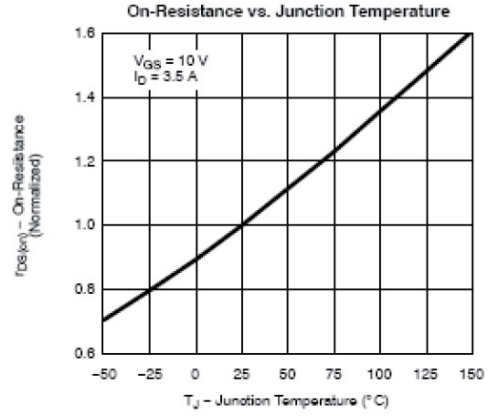






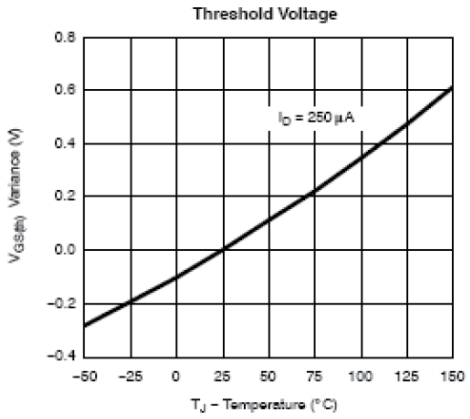


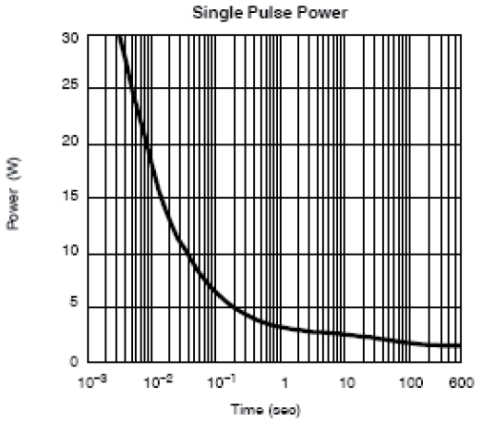


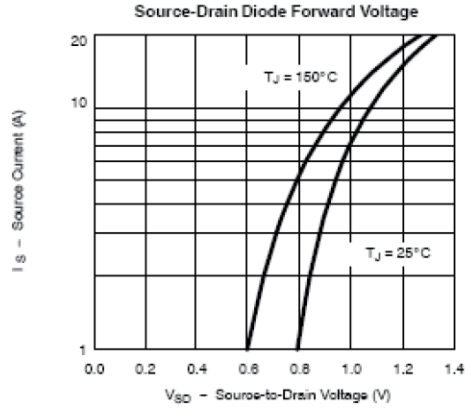


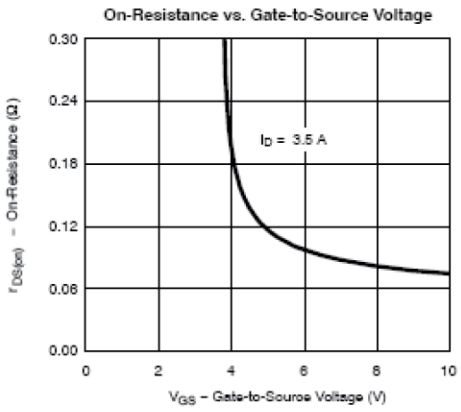
STANSON TECHNOLOGY
120 Bentley Square, Mountain View, Ca 94040 USA
http://www.stansontech.com

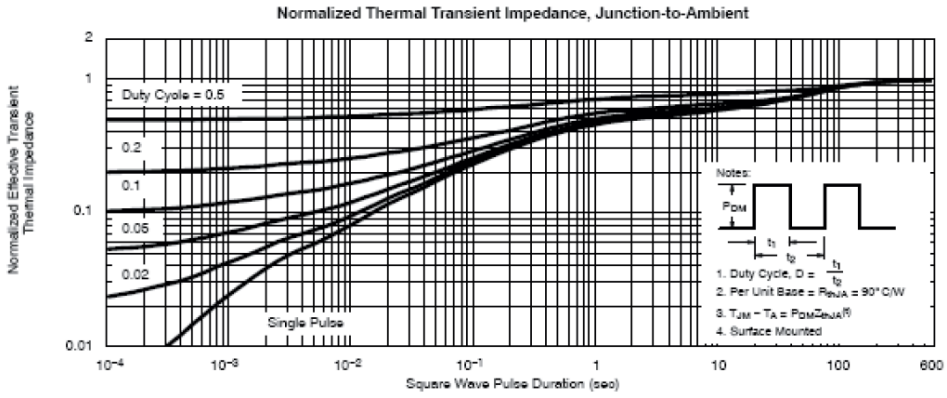
TYPICAL CHARACTERICTICS





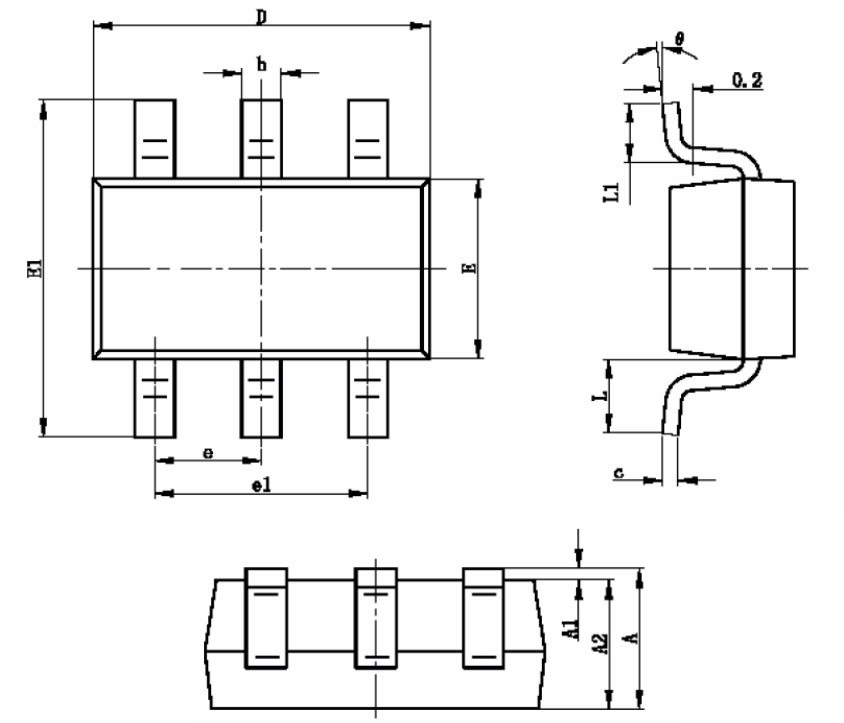






STANSON TECHNOLOGY
120 Bentley Square, Mountain View, Ca 94040 USA
http://www.stansontech.com

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°

STANSON TECHNOLOGY
120 Bentley Square, Mountain View, Ca 94040 USA
http://www.stansontech.com