

**DESCRIPTION**

The STP4407 is the P-Channel logic enhancement mode power field effect transistor is

**STP4407**

**ELECTRICAL CHARACTERISTICS** ( Ta = 25°C Unless otherwise noted )

Parameter	Symbol	Condition	Min	Typ	Max	Unit
<b>Static</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.0		-2.5	V
Gate Leakage Current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 20V$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$ $T_J=55^\circ C$	$V_{DS}=-30V, V_{GS}=0V$			-1	uA
		$V_{DS}=-30V, V_{GS}=0V$			-5	
Drain-source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-10A$		15	20	mΩ
		$V_{GS}=-4.5V, I_D=-6.0A$		24	32	
Forward Transconductance	$g_{fs}$	$V_{DS}=-5V, I_D=-10A$		26		S
Diode Forward Voltage	$V_{SD}$	$I_S=-1.0A, V_{GS}=0V$			-1	V
<b>Dynamic</b>						
Total Gate Charge	$Q_g$	$V_{DS}=-15V, V_{GS}=0V$ $f=1MHz$		30		nC
Gate-Source Charge	$Q_{gs}$			4.3		
Gate-Drain Charge	$Q_{gd}$			10		
Input Capacitance	$C_{iss}$	$V_{DS}=-15V, V_{GS}=0V$ $f=1MHz$		2076	2500	pF
Output Capacitance	$C_{oss}$			400		
Reverse Transfer Capacitance	$C_{rss}$			302		
Turn-On Time	$t_{d(on)}$ $t_r$	$V_{DD}=15V, R_L=1.25\Omega$ $I_D=-1A, V_{GEN}=-10V$ $R_G=3\Omega$		10.4		nS
				24		
Turn-Off Time	$t_{d(off)}$ $t_f$			12.6		
				12		

**TYPICAL CHARACTERISTICS**

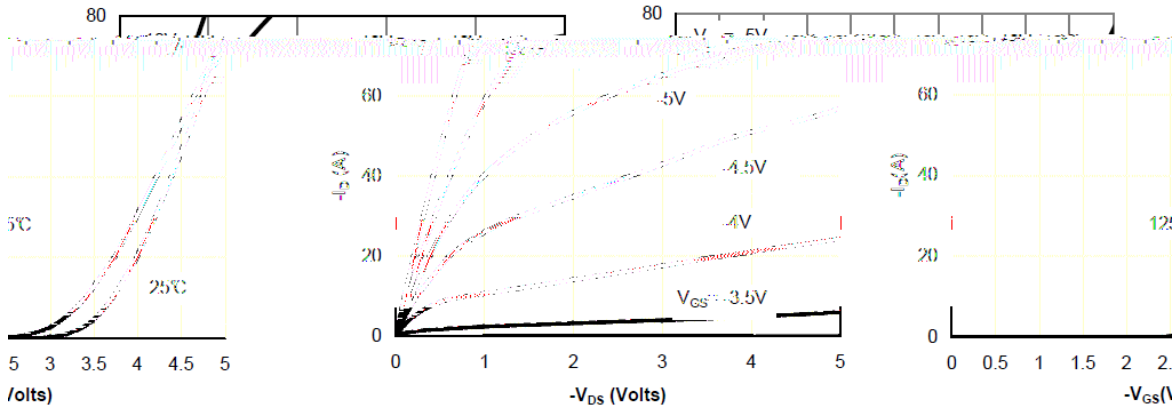


Figure 1: On-Region Characteristics

Figure 2: Transfer Characteristics

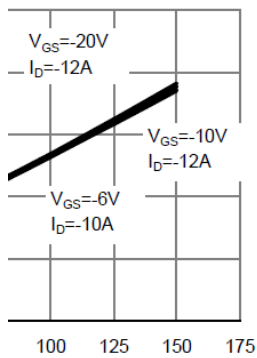


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

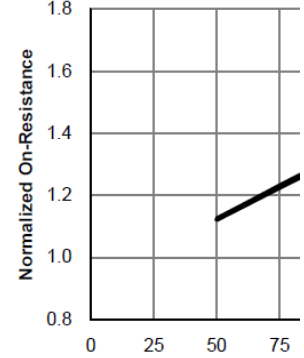


Figure 4: On-Resistance vs. Temperature

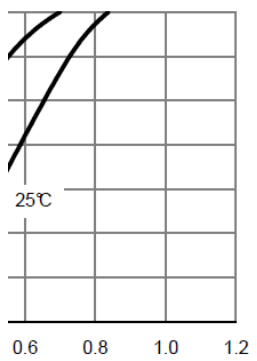


Figure 5: On-Resistance vs. Gate-Source Voltage

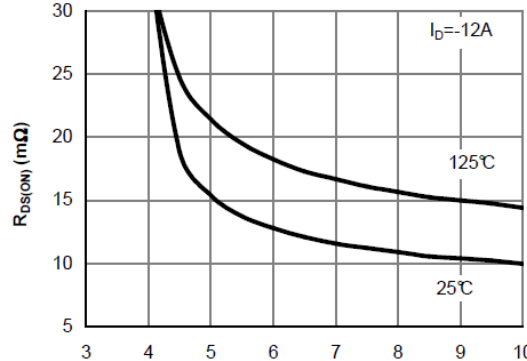


Figure 6: On-Resistance vs. Gate-Source Voltage

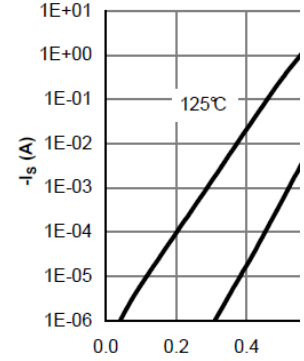
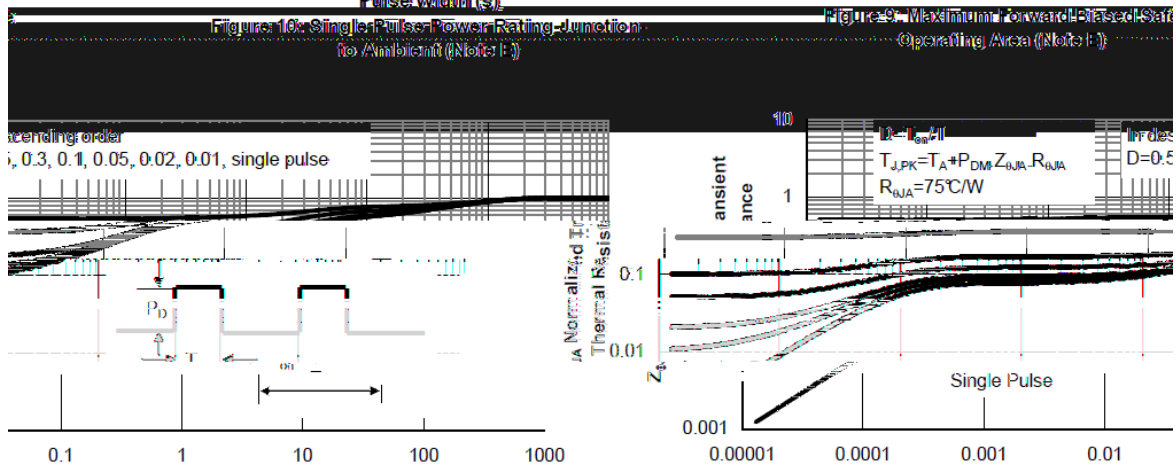
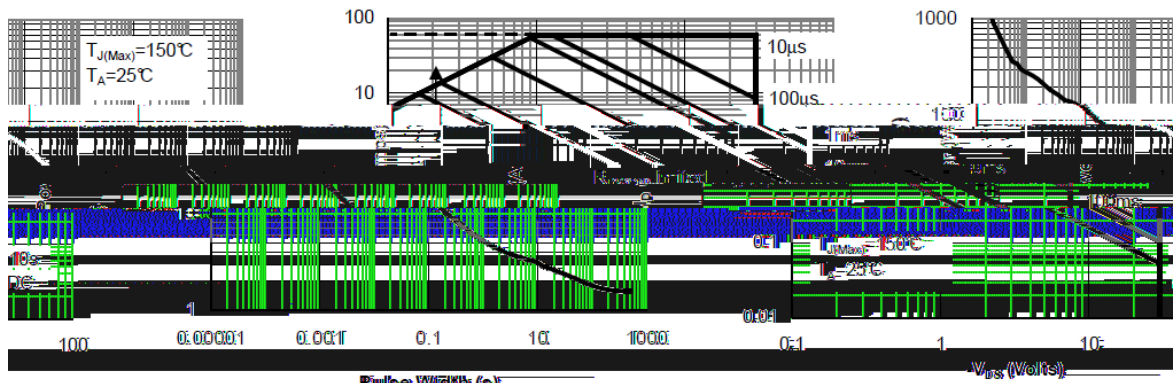
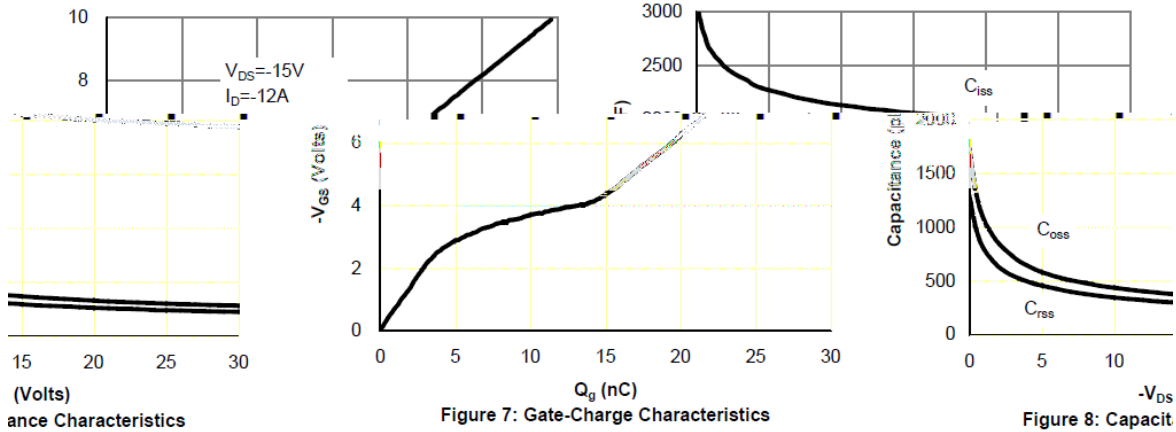
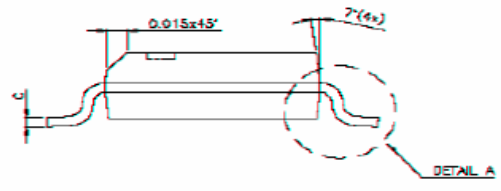
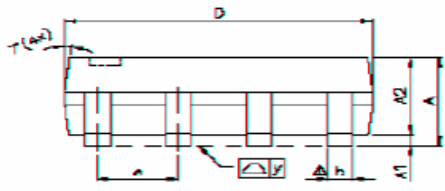
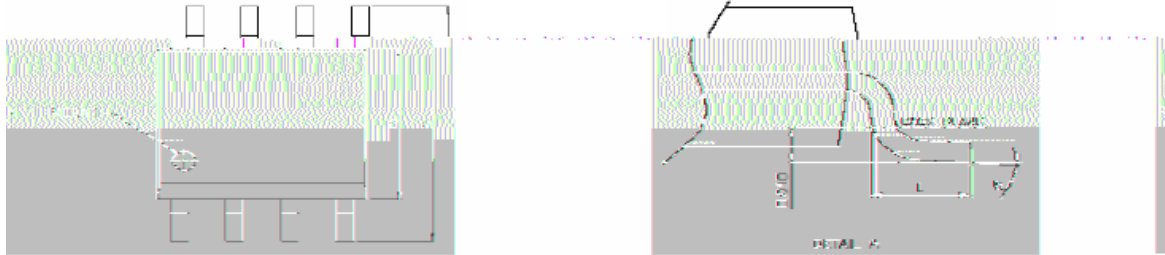


Figure 7: On-Resistance vs. Drain-Source Voltage

**TYPICAL CHARACTERISTICS**



**PACKAGE OUTLINE SOP-8P**



SYMBOLS	DIMENSIONS IN MILLIMETERS			DIMENSIONS IN INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.47	1.60	1.73	0.059	0.063	0.068
A2	0.10	0.15	0.20	0.004	0.006	0.008
B	0.025	0.025	0.025	0.001	0.001	0.001
C	0.191	0.195	0.200	0.0075	0.0077	0.0079
D	4.80	4.85	4.90	0.189	0.191	0.193
E	5.50	5.50	5.50	0.217	0.217	0.217
F	0.150	0.154	0.157	0.006	0.006	0.006
G	0.050	0.050	0.050	0.002	0.002	0.002
H	0.015	0.028	0.050	0.0006	0.0011	0.0020
I	—	—	0.005	—	—	0.0002
J	—	—	—	—	—	—
K	—	—	—	—	—	—
L	—	—	—	—	—	—
M	—	—	—	—	—	—
N	—	—	—	—	—	—
O	—	—	—	—	—	—
P	—	—	—	—	—	—
Q	—	—	—	—	—	—
R	—	—	—	—	—	—
S	—	—	—	—	—	—
T	—	—	—	—	—	—
U	—	—	—	—	—	—
V	—	—	—	—	—	—
W	—	—	—	—	—	—
X	—	—	—	—	—	—
Y	—	—	—	—	—	—
Z	—	—	—	—	—	—