


STP4407 

P Channel Enhancement Mode MOSFET
- 10A

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
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.0		-2.5	V
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 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	gfs	$V_{DS}=-5V, I_D=-10A$		26		S

Diode Forward Voltage V_{SD} $I_S=-12$ 444.32 .32 0 Tc 9.81TD[-] 0 .2 9J/G1 1 TD[]TJ3.5(V)TJ0.

TYPICAL CHARACTERISTICS

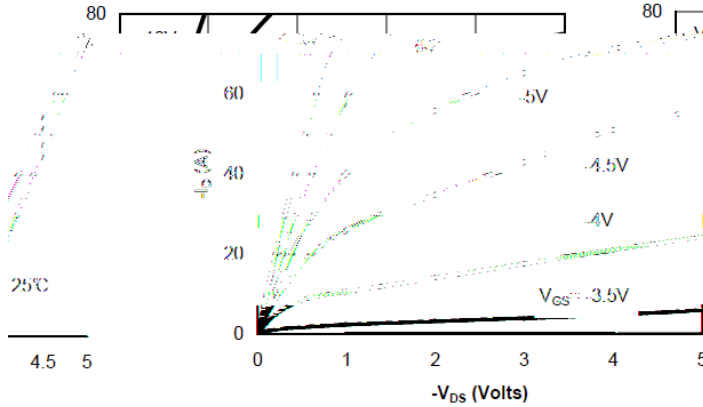


Figure 1: On-Region Characteristics

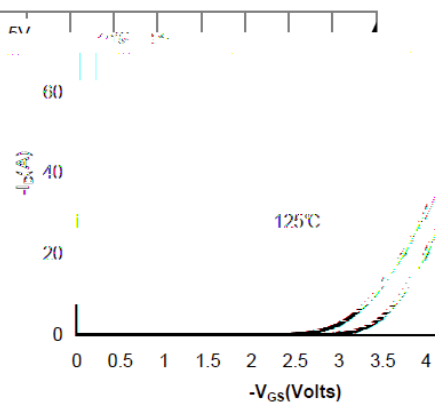


Figure 2: Transfer Characteristics

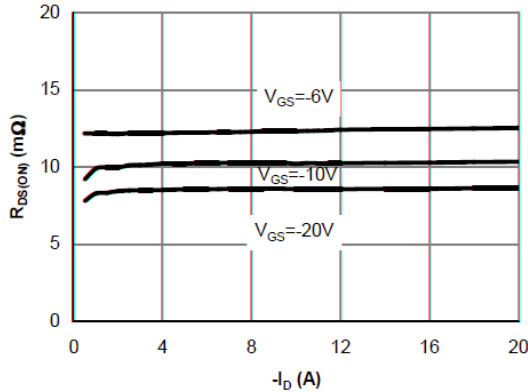
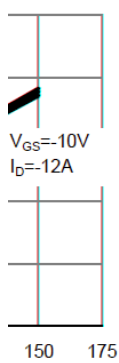


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

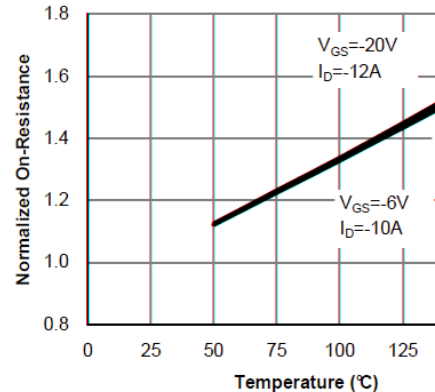


Figure 4: On-Resistance vs. Junction Temperature

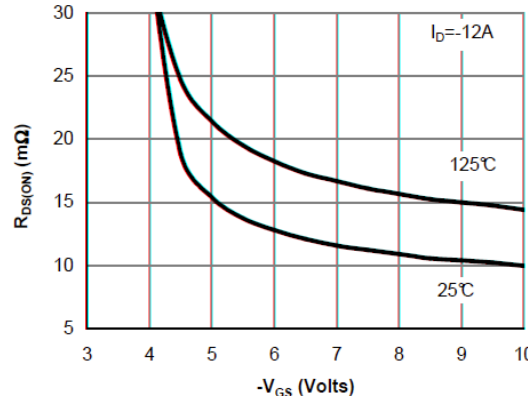
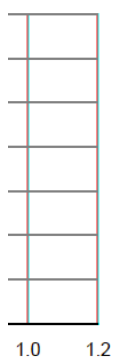


Figure 5: On-Resistance vs. Gate-Source Voltage

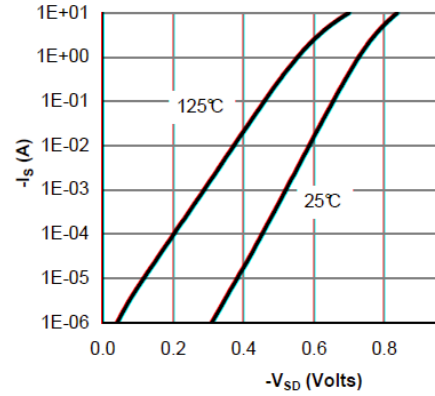


Figure 6: Dynamic Characteristics

TYPICAL CHARACTERISTICS

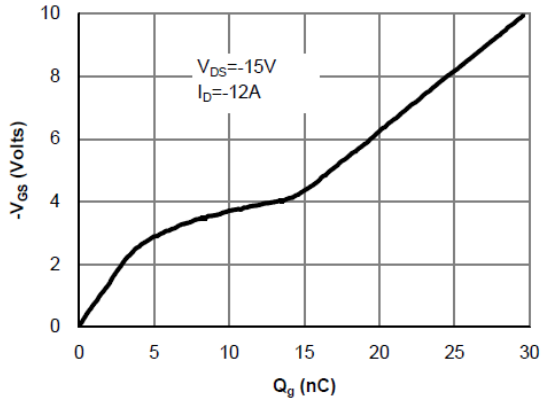


Figure 7: Gate-Charge Characteristics

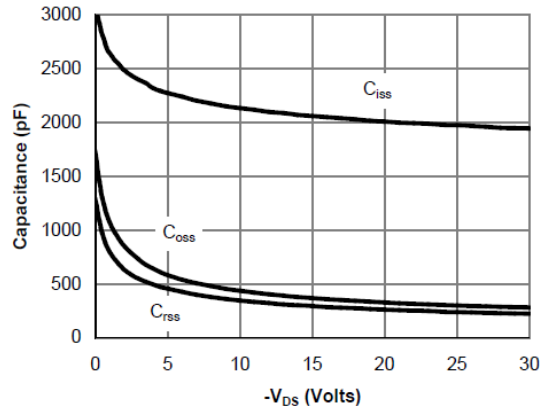


Figure 8: Capacitance Characteristics

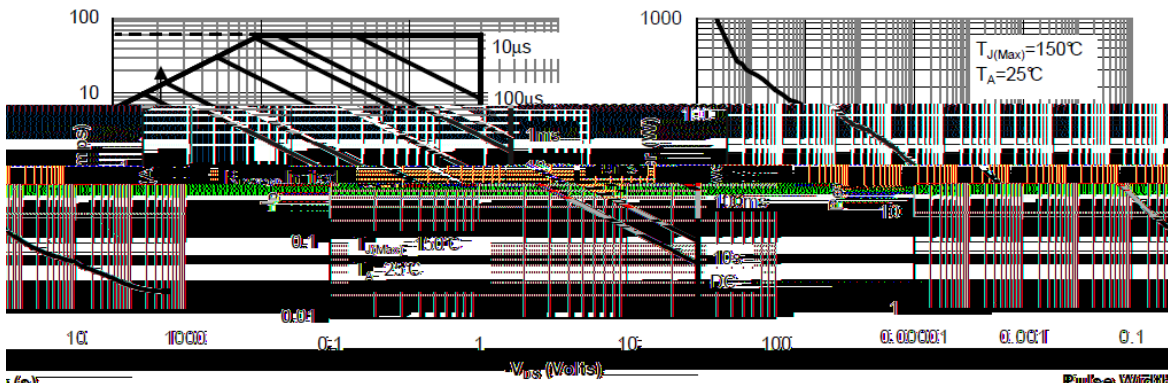


Figure 9: Maximum Forward-Biased Safe Operating Area (Note 1)

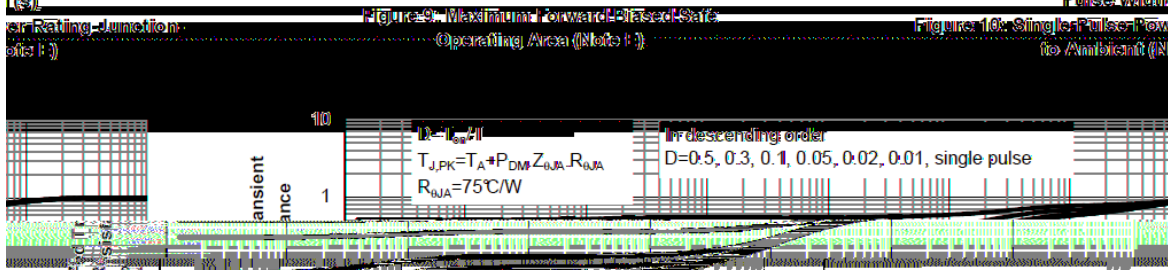


Figure 10: Single Pulse Power to Ambient (Note 1)

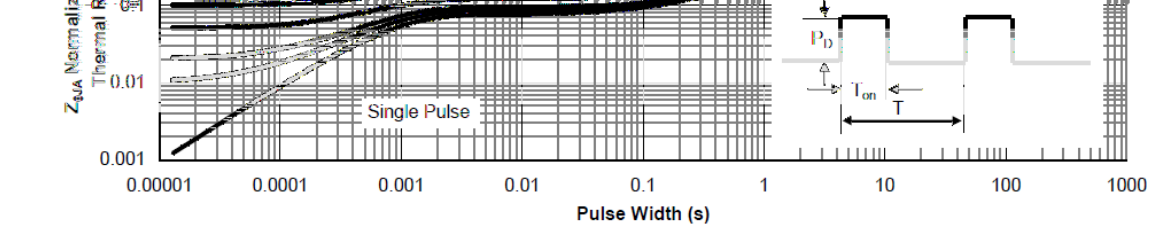
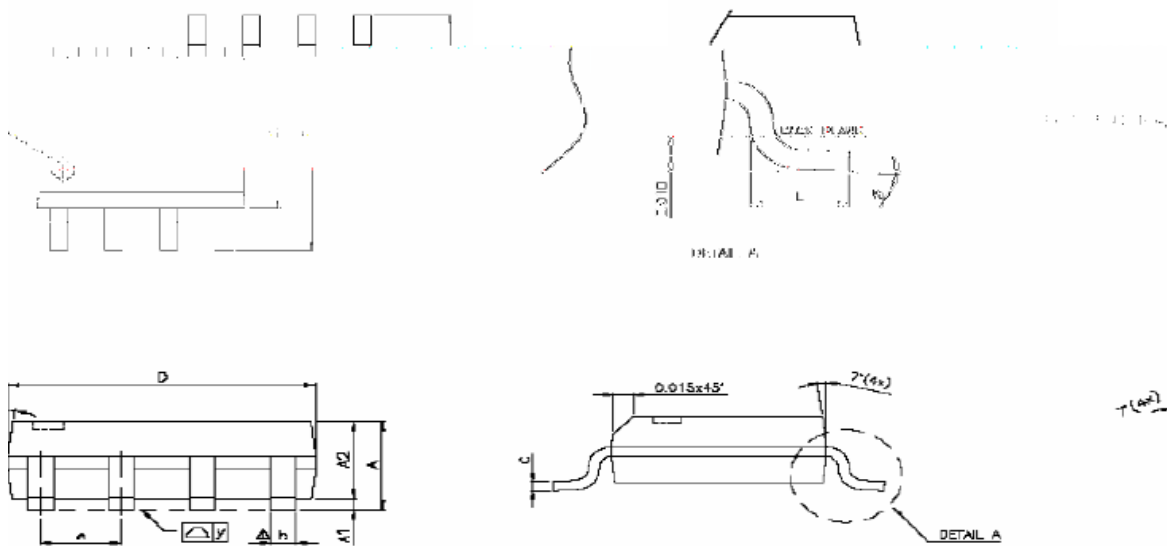


Figure 11: Normalized Maximum Transient Thermal Impedance (Note E)

PACKAGE OUTLINE SOP-8P



SYMBOLS	DIMENSIONS IN MILLIMETERS			DIMENSIONS IN INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.47	1.50	1.73	0.058	0.063	0.069
A1	0.075	0.075	0.101	0.003	0.003	0.004
A2	0.057	—	—	1.45	—	—
B	0.013	0.016	0.026	0.001	0.001	0.001
C	0.0075	0.008	0.0098	—	—	—
D	0.189	0.191	0.195	—	—	—
E	0.008	0.008	0.008	—	—	—
F	0.008	0.008	0.008	—	—	—
G	0.008	0.008	0.008	—	—	—
H	0.008	0.008	0.008	—	—	—
I	0.008	0.008	0.008	—	—	—
J	0.008	0.008	0.008	—	—	—
K	0.008	0.008	0.008	—	—	—
L	0.008	0.008	0.008	—	—	—
M	0.008	0.008	0.008	—	—	—
N	0.008	0.008	0.008	—	—	—
O	0.008	0.008	0.008	—	—	—
P	0.008	0.008	0.008	—	—	—
Q	0.008	0.008	0.008	—	—	—
R	0.008	0.008	0.008	—	—	—
S	0.008	0.008	0.008	—	—	—
T	0.008	0.008	0.008	—	—	—
U	0.008	0.008	0.008	—	—	—
V	0.008	0.008	0.008	—	—	—
W	0.008	0.008	0.008	—	—	—
X	0.008	0.008	0.008	—	—	—
Y	0.008	0.008	0.008	—	—	—
Z	0.008	0.008	0.008	—	—	—
a	—	—	—	—	—	—
b	—	—	—	—	—	—
c	—	—	—	—	—	—
d	—	—	—	—	—	—
e	—	—	—	—	—	—
f	—	—	—	—	—	—
g	—	—	—	—	—	—
h	—	—	—	—	—	—
i	—	—	—	—	—	—
j	—	—	—	—	—	—
k	—	—	—	—	—	—
l	—	—	—	—	—	—
m	—	—	—	—	—	—
n	—	—	—	—	—	—
o	—	—	—	—	—	—
p	—	—	—	—	—	—
q	—	—	—	—	—	—
r	—	—	—	—	—	—
s	—	—	—	—	—	—
t	—	—	—	—	—	—
u	—	—	—	—	—	—
v	—	—	—	—	—	—
w	—	—	—	—	—	—
x	—	—	—	—	—	—
y	—	—	—	—	—	—
z	—	—	—	—	—	—