


STP4407 

P Channel Enhancement Mode MOSFET
- 10A

DESCRIPTION

The STP4407 is the P-Channel logic enhancement mode power field effect transistor is produced using high cell density, DMOS c

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}	$I_S=-19TJ04900104216210412001048006781178378085002897$				

TYPICAL CHARACTERISTICS

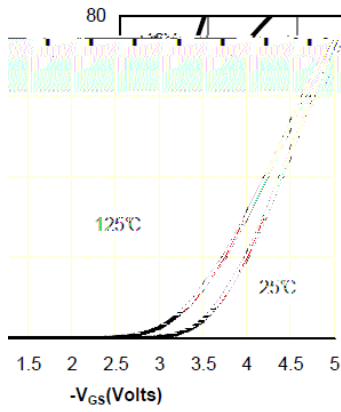


Figure 2: Transfer Characteristics

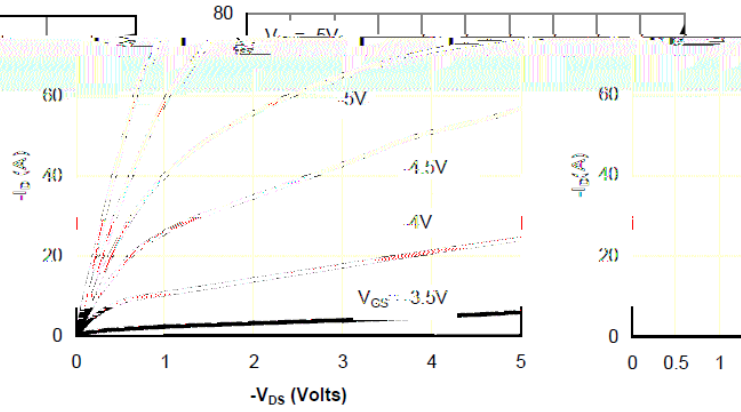


Figure 1: On-Region Characteristics

Figure

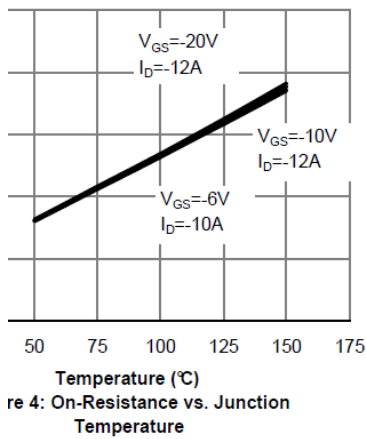


Figure 4: On-Resistance vs. Junction Temperature

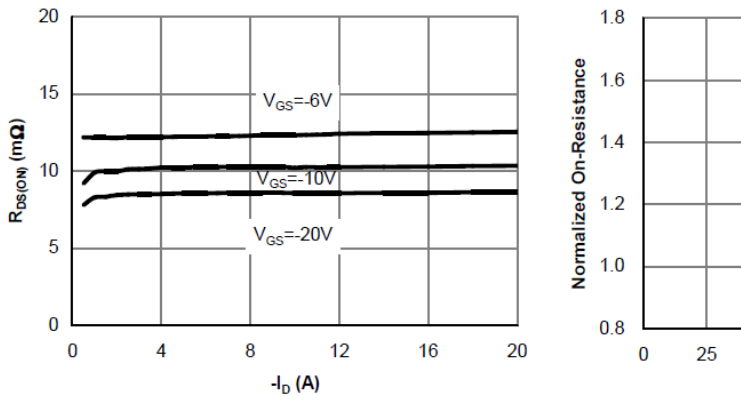


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure

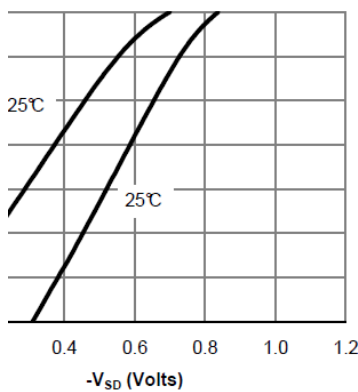


Figure 5: On-Resistance vs. Drain-Source Voltage

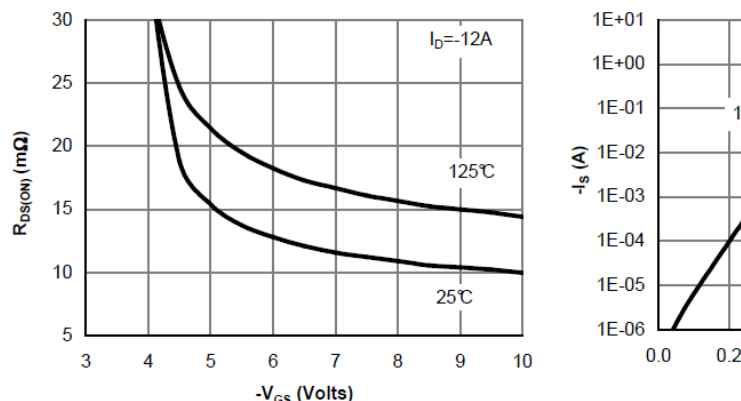


Figure 6: On-Resistance vs. Gate-Source Voltage

Figure

TYPICAL CHARACTERISTICS

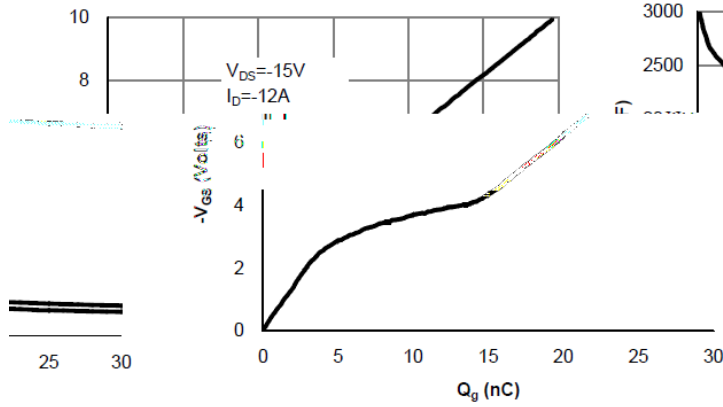


Figure 7: Gate-Charge Characteristics

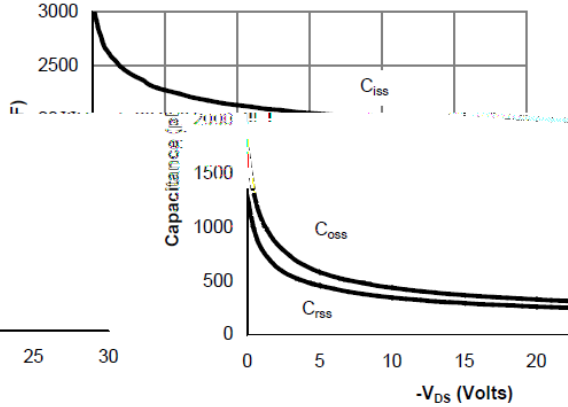


Figure 8: Capacitance Characteristics

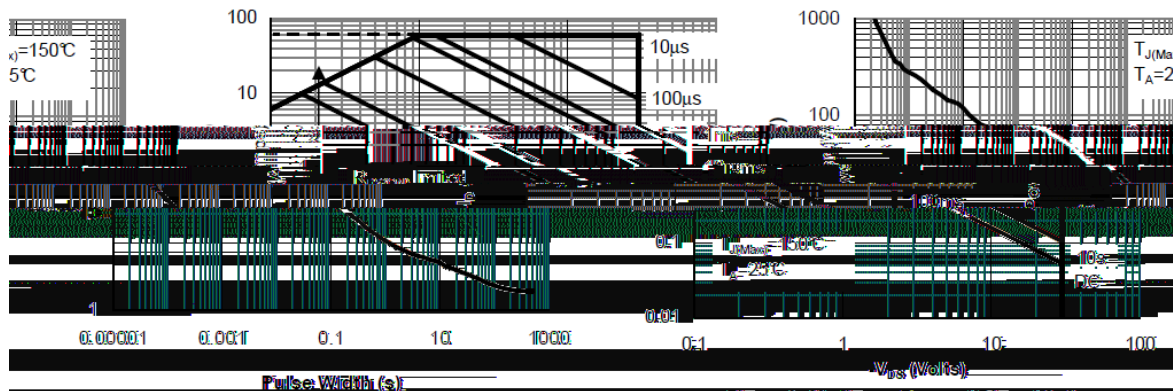


Figure 9: Maximum Forward-Biased Safe Operating Area (Note 1)

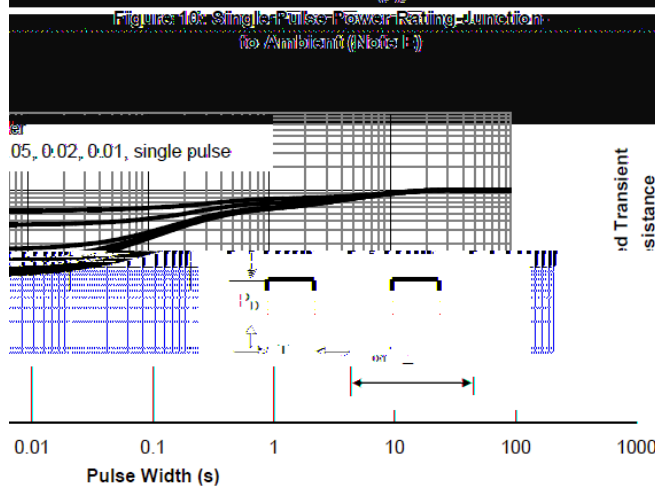


Figure 10: Single-Pulse Power Rating Junction to Ambient (Note 1)

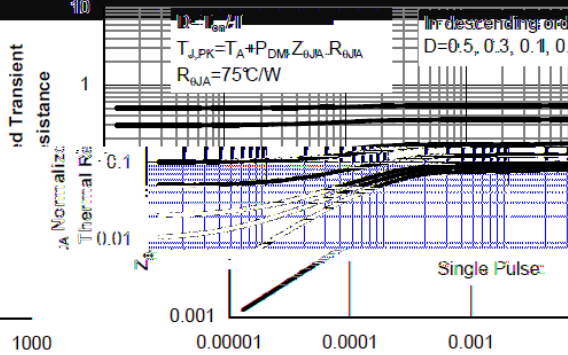
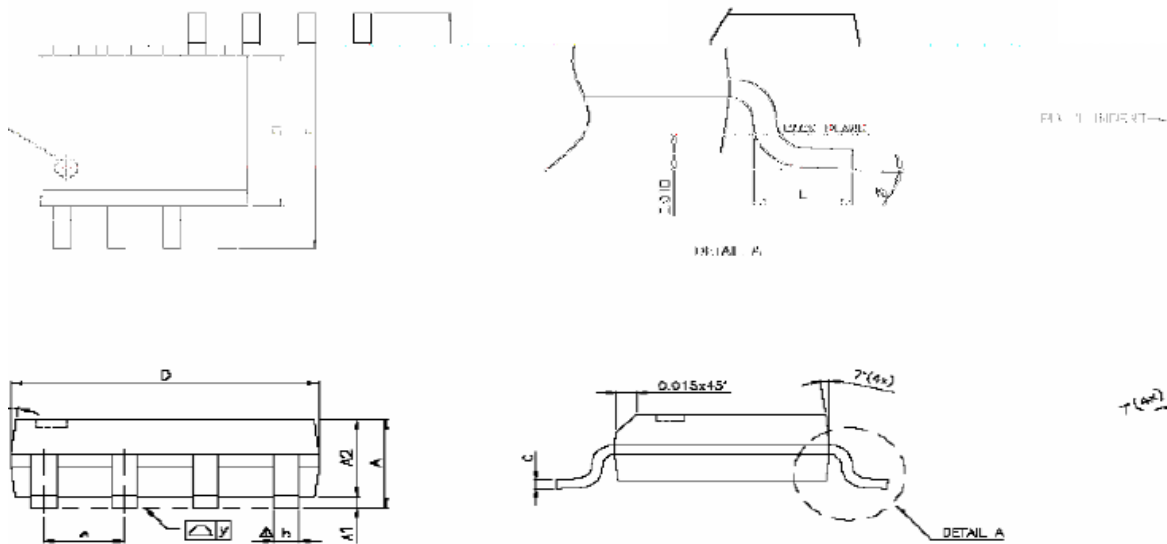


Figure 11: Normalized Maximum Transient Thermal Impedance (Note E)

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	0.068
A1	0.15	0.15	0.15	0.006	0.006	0.006
A2	0.15	0.15	0.15	0.006	0.006	0.006
B	0.0075	0.008	0.0095	0	0.003	0.004
C	0.185	0.191	0.195	0.007	0.008	0.008
D	0.002	0.002	0.002	0.000	0.000	0.000
E	0.002	0.002	0.002	0.000	0.000	0.000
F	0.002	0.002	0.002	0.000	0.000	0.000
G	0.002	0.002	0.002	0.000	0.000	0.000
H	0.002	0.002	0.002	0.000	0.000	0.000
I	0.002	0.002	0.002	0.000	0.000	0.000
J	0.002	0.002	0.002	0.000	0.000	0.000
K	0.002	0.002	0.002	0.000	0.000	0.000
L	0.002	0.002	0.002	0.000	0.000	0.000
M	0.002	0.002	0.002	0.000	0.000	0.000
N	0.002	0.002	0.002	0.000	0.000	0.000
O	0.002	0.002	0.002	0.000	0.000	0.000
P	0.002	0.002	0.002	0.000	0.000	0.000
Q	0.002	0.002	0.002	0.000	0.000	0.000
R	0.002	0.002	0.002	0.000	0.000	0.000
S	0.002	0.002	0.002	0.000	0.000	0.000
T	0.002	0.002	0.002	0.000	0.000	0.000
U	0.002	0.002	0.002	0.000	0.000	0.000
V	0.002	0.002	0.002	0.000	0.000	0.000
W	0.002	0.002	0.002	0.000	0.000	0.000
X	0.002	0.002	0.002	0.000	0.000	0.000
Y	0.002	0.002	0.002	0.000	0.000	0.000
Z	0.002	0.002	0.002	0.000	0.000	0.000