


**STP4407** 

P Channel Enhancement Mode MOSFET  
- 10A

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**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 30	$I_{DSS}$ $T_J=55^\circ C$	$V_{DS}=-30V, V_{GS}=0V$			-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	$V_{SD}$	$I_S=-1$				

**TYPICAL CHARACTERISTICS**

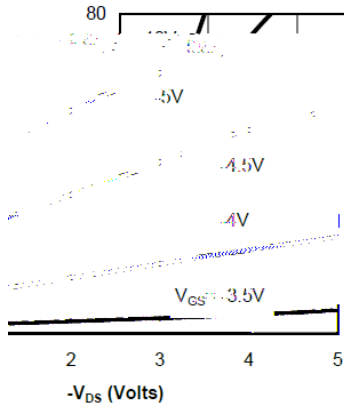


Figure 1: On-Region Characteristics

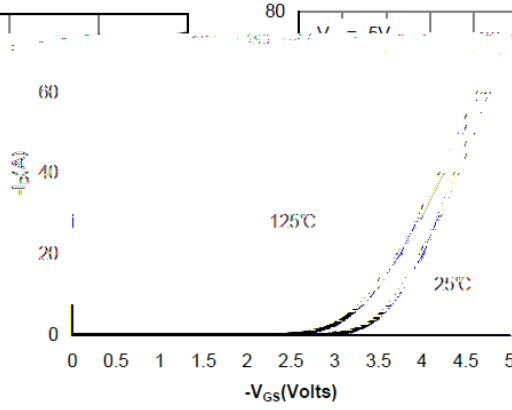


Figure 2: Transfer Characteristics

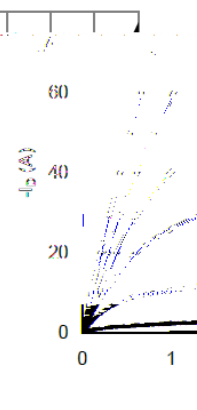


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

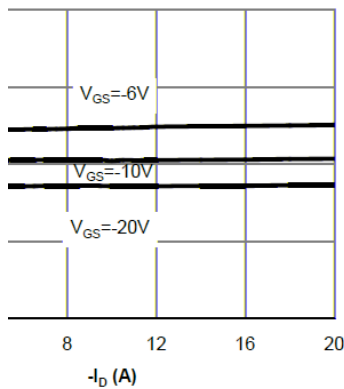


Figure 4: On-Resistance vs. Junction Temperature

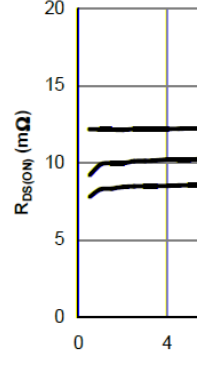


Figure 5: On-Resistance vs. Gate-Source Voltage

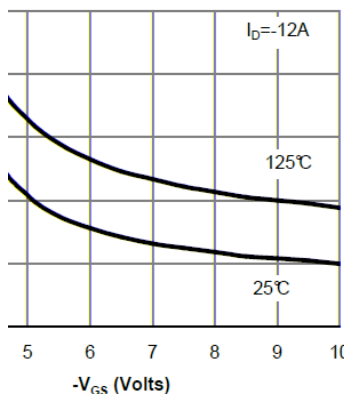


Figure 6: Body-Diode Characteristics

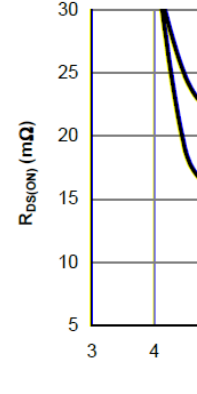


Figure 7: On-Resistance vs. Drain Current and Gate Voltage

**TYPICAL CHARACTERISTICS**

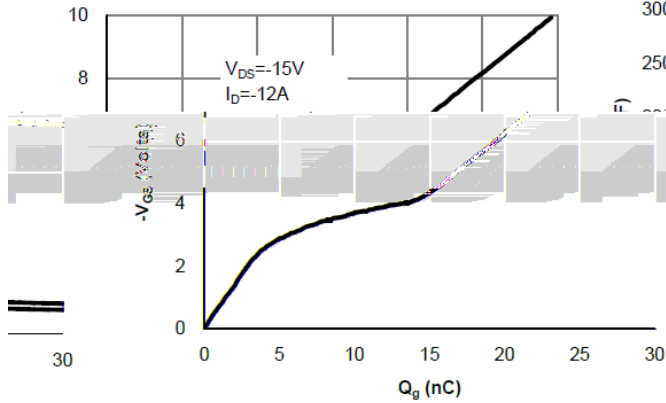


Figure 7: Gate-Charge Characteristics

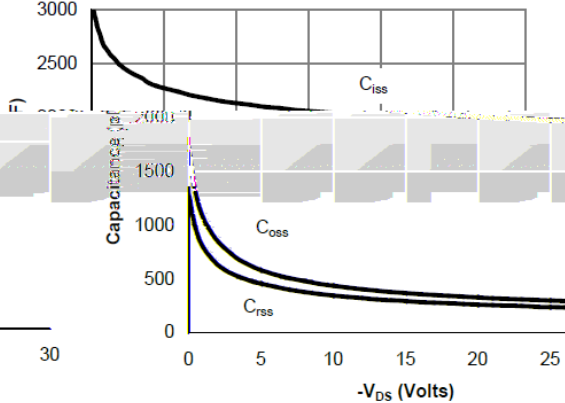


Figure 8: Capacitance Characteristics

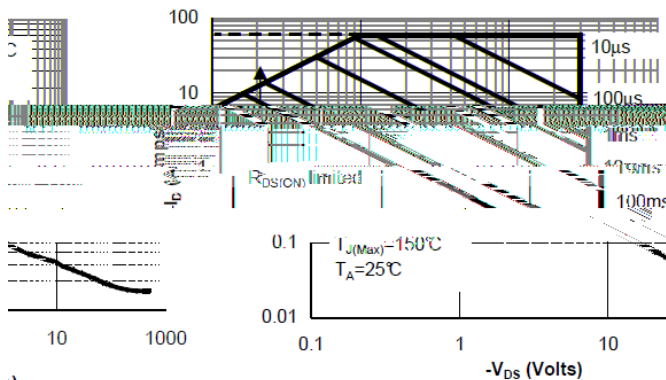


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

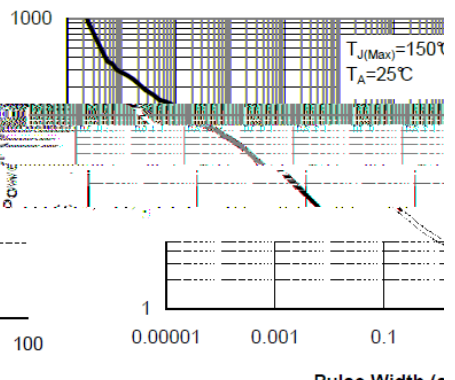


Figure 10: Single Pulse Power to Ambient (Note E)

i) Rating Junction-  
e E)

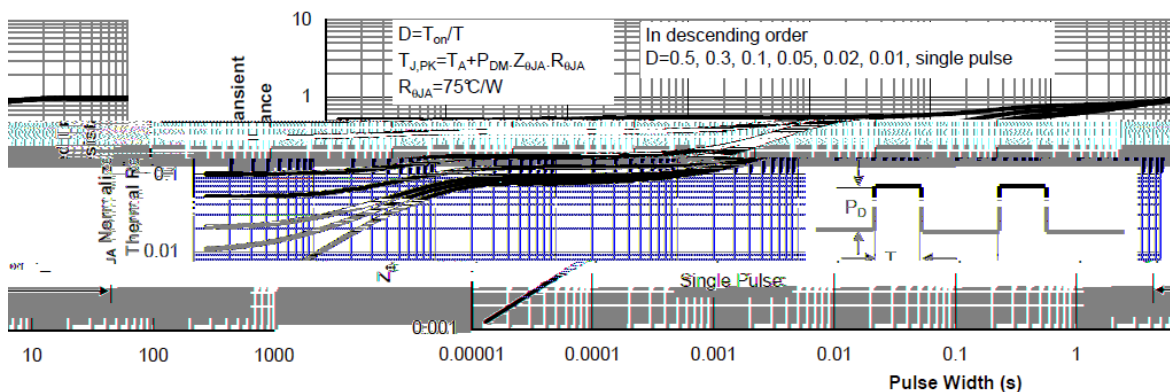
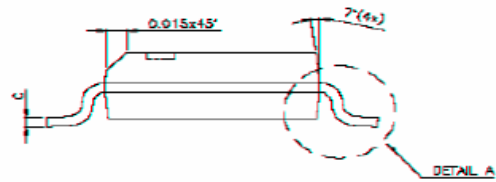
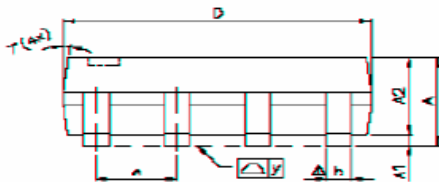
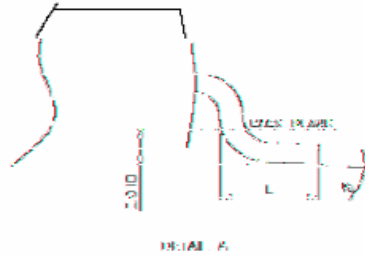
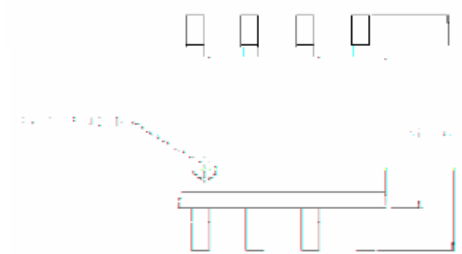


Figure 11: Normalized Maximum Transient Thermal Impedance (Note E)

ce(Note E)

**PACKAGE OUTLINE SOP-8P**



SYMBOLS	DIMENSIONS IN MILLIMETERS			DIMENSIONS IN INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.47	1.60	1.73	0.058	0.063	0.069
A1	0.25	0.25	0.25	0.010	0.010	0.010
A2	0.015	0.028	0.050	0.001	0.001	0.002
B	0.0075	0.008	0.0098	0.0003	0.0003	0.0004
C	0.189	0.191	0.195	0.0075	0.0075	0.0077
D	0.228	0.236	0.244	0.0090	0.0094	0.0096
E	0.150	0.154	0.157	0.0060	0.0061	0.0062
E1	—	0.050	—	—	0.0020	—
e	0.015	0.028	0.050	0.0006	0.0011	0.0020
L	—	—	0.003	—	—	0.0001
y	0°	—	8°	0°	—	8°