


**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	$I_{DSS}$ $T_J=55^\circ C$	$V_{DS}=-30V, V_{GS}=0V$			-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	$V_{SD}$	$I_S=-1$		5V,V		

**TYPICAL CHARACTERISTICS**

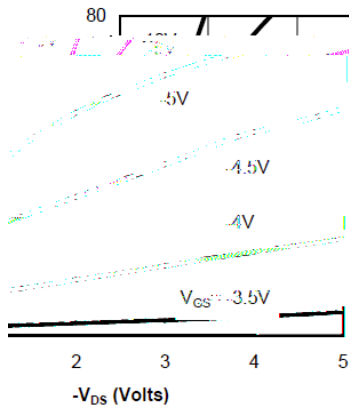


Figure 1: On-Region Characteristics

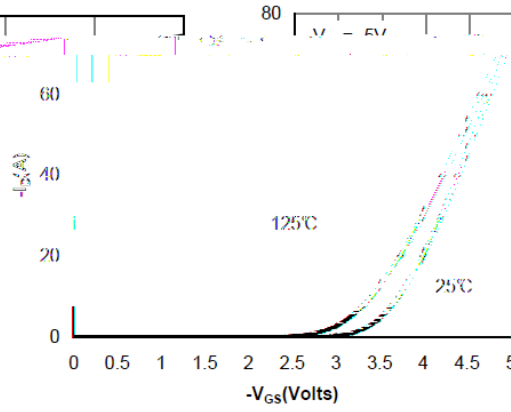


Figure 2: Transfer Characteristics

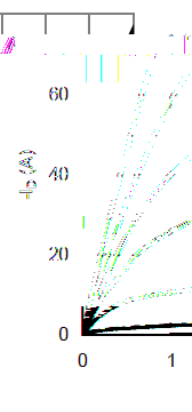


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

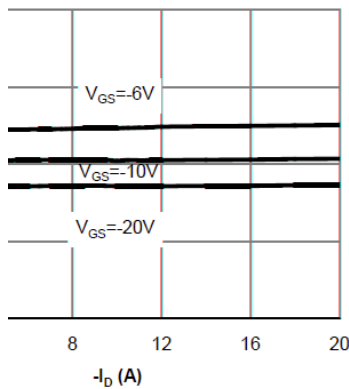


Figure 4: On-Resistance vs. Junction Temperature

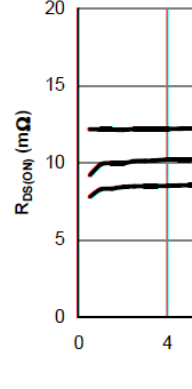


Figure 5: On-Resistance vs. Drain Current and Gate Voltage

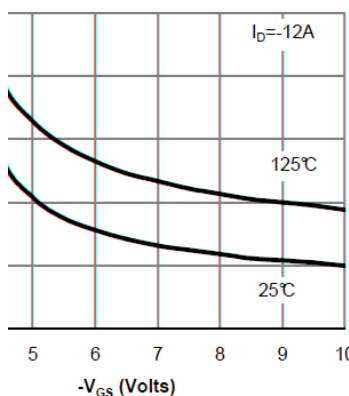


Figure 6: On-Resistance vs. Drain Current and Gate Voltage

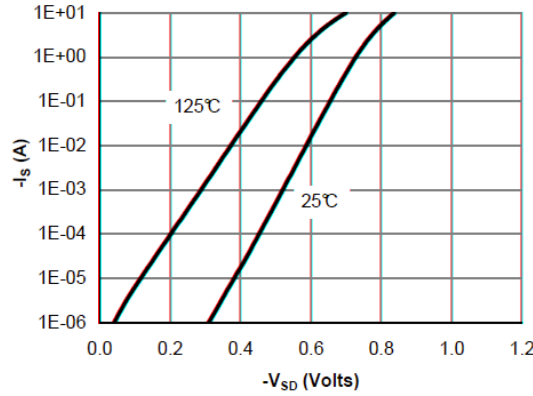
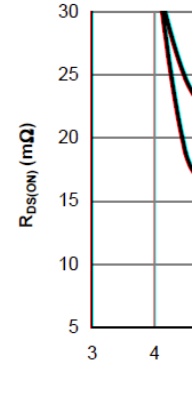


Figure 7: On-Resistance vs. Drain Current and Gate Voltage



**TYPICAL CHARACTERISTICS**

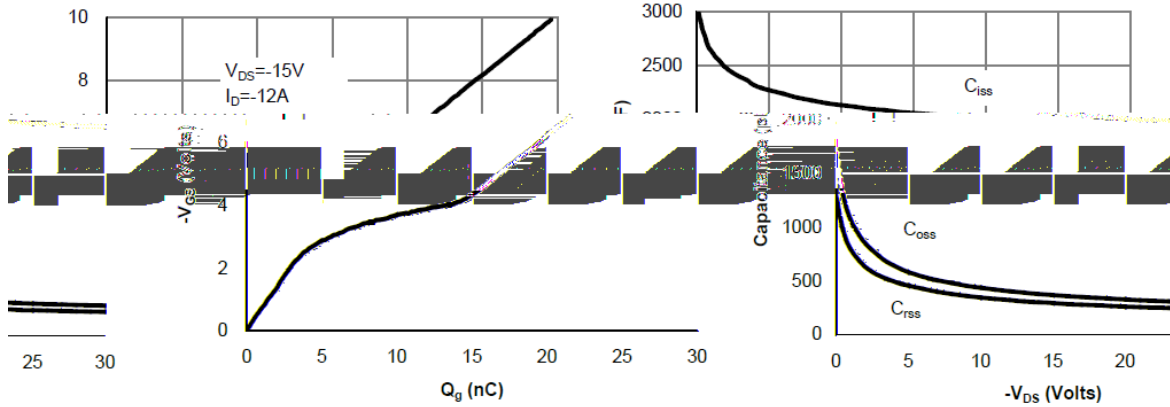


Figure 7: Gate-Charge Characteristics

Figure 8: Capacitance Characteristics

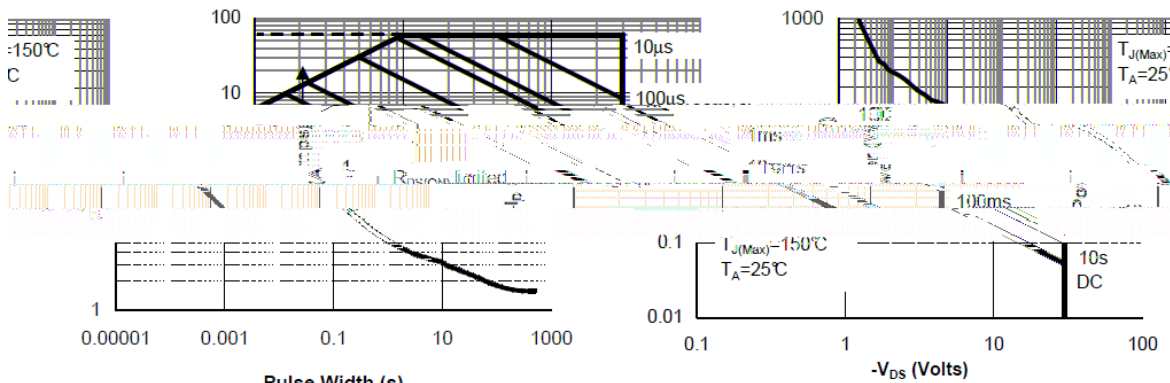


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

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

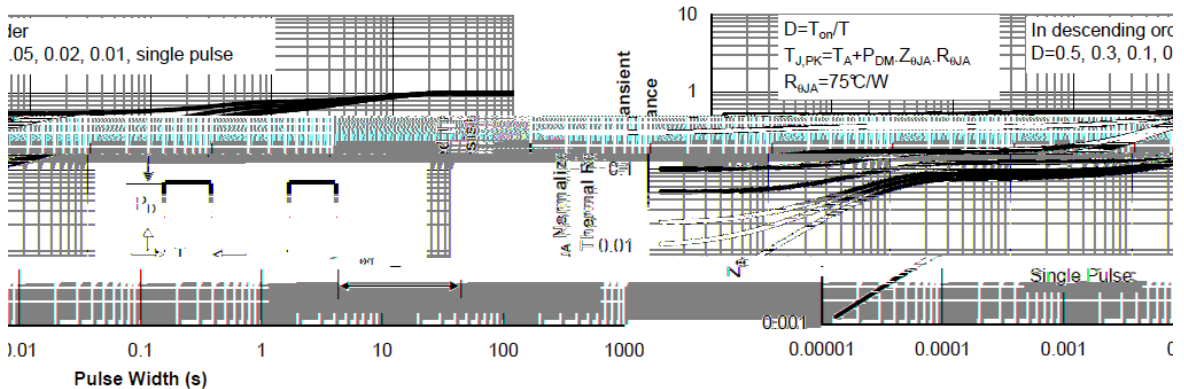
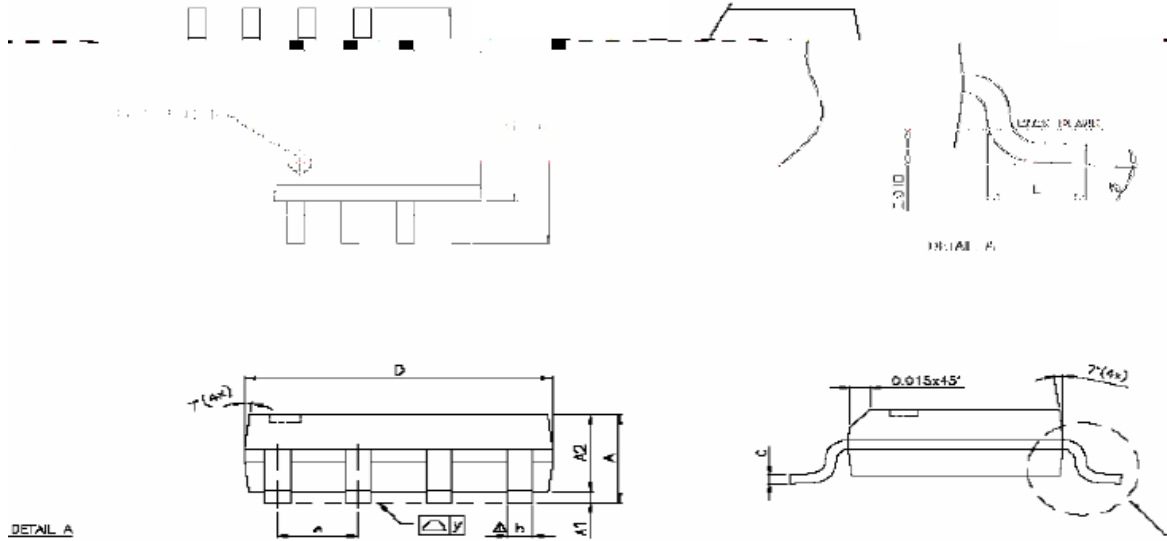


Figure 11: Normalized Maximum Transient Thermal Impedance (Note E)

**PACKAGE OUTLINE SOP-8P**



SYMBOLS	DIMENSIONS IN MILLIMETERS			DIMENSIONS IN INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.47	1.60	1.73	0.058	0.063	0.069
A1	0.95	1.00	1.05	0.037	0.039	0.041
A2	0.025	0.253	0.253	0.001	0.010	0.010
b	0.131	0.143	—	0.005	0.006	—
c	0.076	0.104	—	0.003	0.004	—
D	—	—	4.80	—	—	0.189
e	—	—	—	—	—	—
E	—	—	—	—	—	—
L	—	—	—	—	—	—
L	0.028	0.030	—	0.001	0.001	—
△ <i>r</i>	—	0.005	—	—	0.0002	—
φ	—	—	—	—	—	—