


**STP4407**   
M MOSFET  
- 10A

P C E

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**DESCRIPTION**

T STP4407 P-C  
C

, DMOS ,  $\square$  6.22223 3.( 2 6T )2 4(D).3.8603 0 TD374 TEL: ( )

**STP4407**

**ELECTRICAL CHARACTERISTICS** (  $T = 25^{\circ}\text{C}$  U )

Parameter	Symbol	Condition	Min	Typ	Max	Unit	
<b>Static</b>							
D B	-S V	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\text{ A}$	-30		V	
G V	T	$V_{GS}(\ )$	$V_{DS}=V_{GS}, I_D=-250\text{ A}$	-1.0	-2.5	V	
G	L C	$I_{GSS}$	$V_{DS}=0V, V_{GS}=20V$		100	A	
D	G V C	$I_{DSS}$ $T_J=55^{\circ}\text{C}$	$V_{DS}=-30V, V_{GS}=0V$		-1	A	
			$V_{DS}=-30V, V_{GS}=0V$		-5		
D R	- O -	$R_{DS}(\ )$	$V_{GS}=-10V, I_D=-10A$ $V_{GS}=-4.5V, I_D=-6.0A$	15 24	20 32	$\Omega$	
F T			$V_{DS}=-5V, I_D=-10A$	26		S	
D	F V	$V_{SD}$	$I_S=-1.0A, V_{GS}=0V$		-1	V	
<b>Dynamic</b>							
T	G C	Q	$V_{DS}=-15V, V_{GS}=0V$ $=1MH$		30	C	
G	-S C	Q			4.3		
G	-D C	Q			10		
I	C	C	$V_{DS}=-15V, V_{GS}=0V$ $=1MH$		2076	2500	F
O	C	C			400		
R T	C	C			302		
T	-O T	( )	$V_{DD}=15V, R_L=1.25\Omega$ $I_D=-1A, V_{GEN}=-10V$ $R_G=3\Omega$		10.4	S	
					24		
T	-O T	( )			12.6		
				12			

**TYPICAL CHARACTERISTICS**

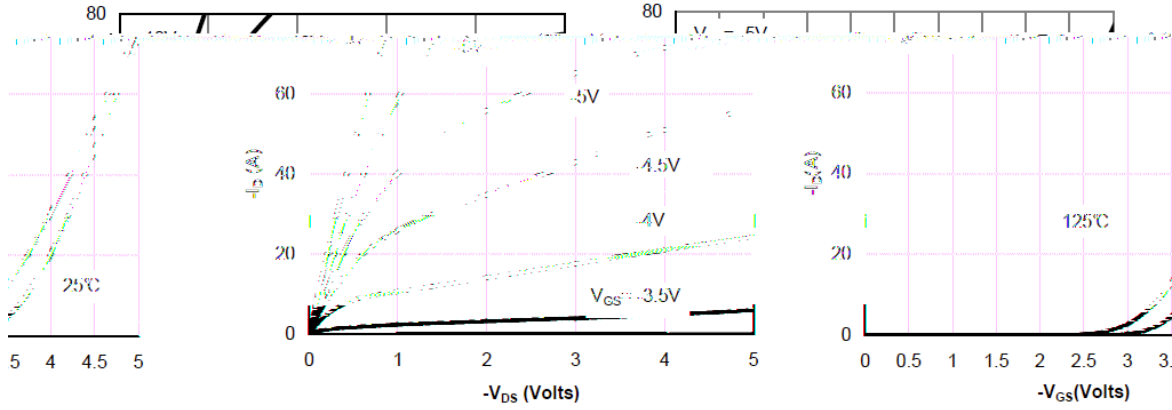


Figure 1: On-Region Characteristics

Figure 2: Transfer Characteristics

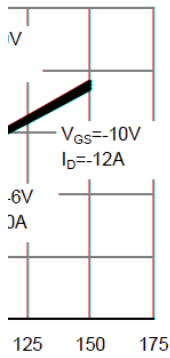


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

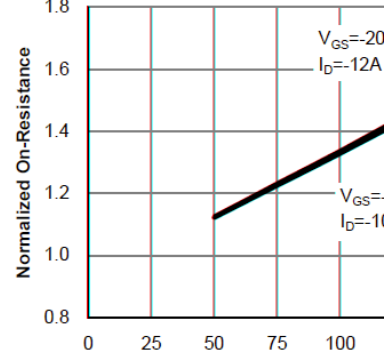


Figure 4: On-Resistance vs. Temperature

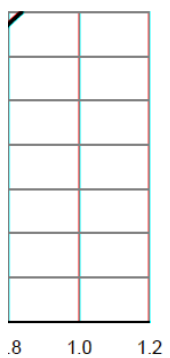


Figure 5: On-Resistance vs. Gate Voltage

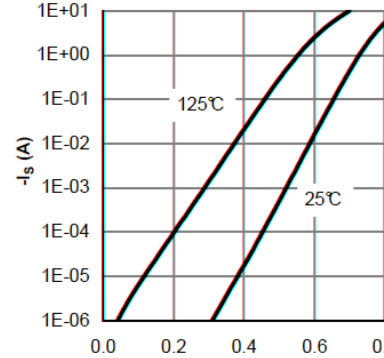
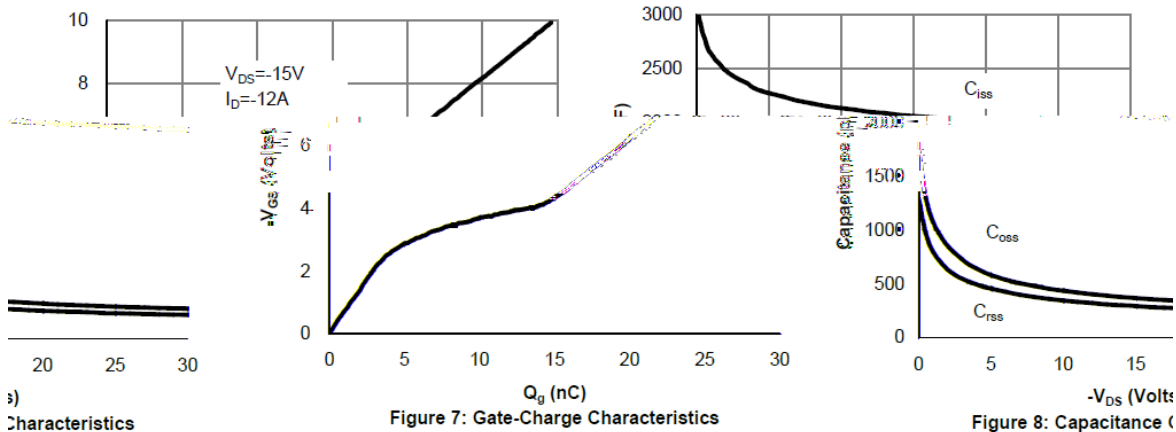


Figure 6: On-Resistance vs. Drain-Source Voltage

**TYPICAL CHARACTERISTICS**



s) Characteristics

Figure 7: Gate-Charge Characteristics

Figure 8: Capacitance Characteristics

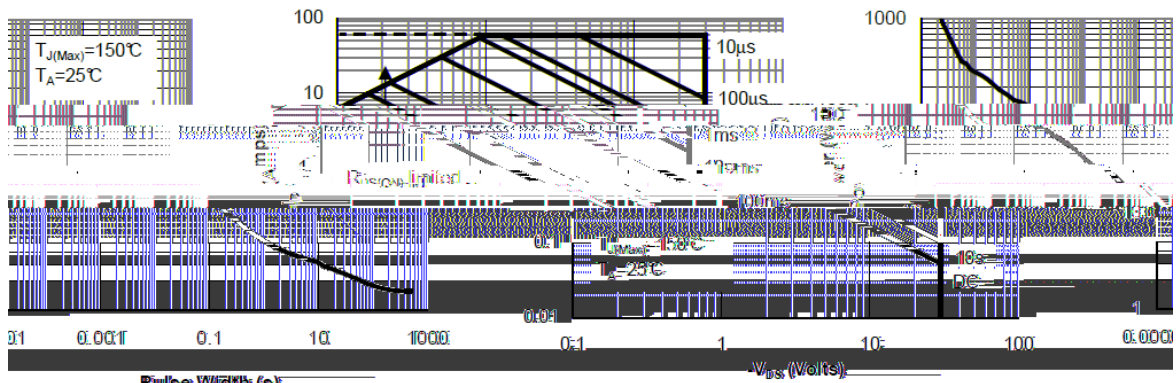
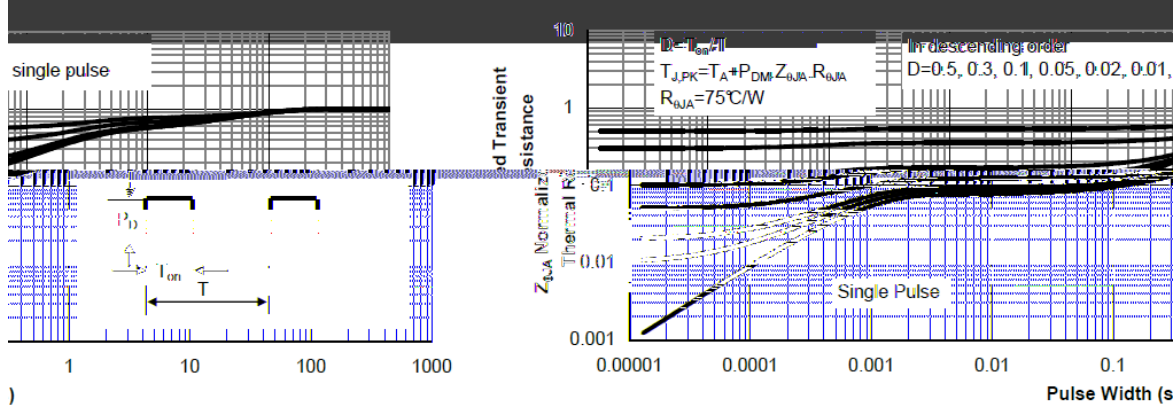


Figure 10: Single-Pulse Power Rating Junction to Ambient (Note E)

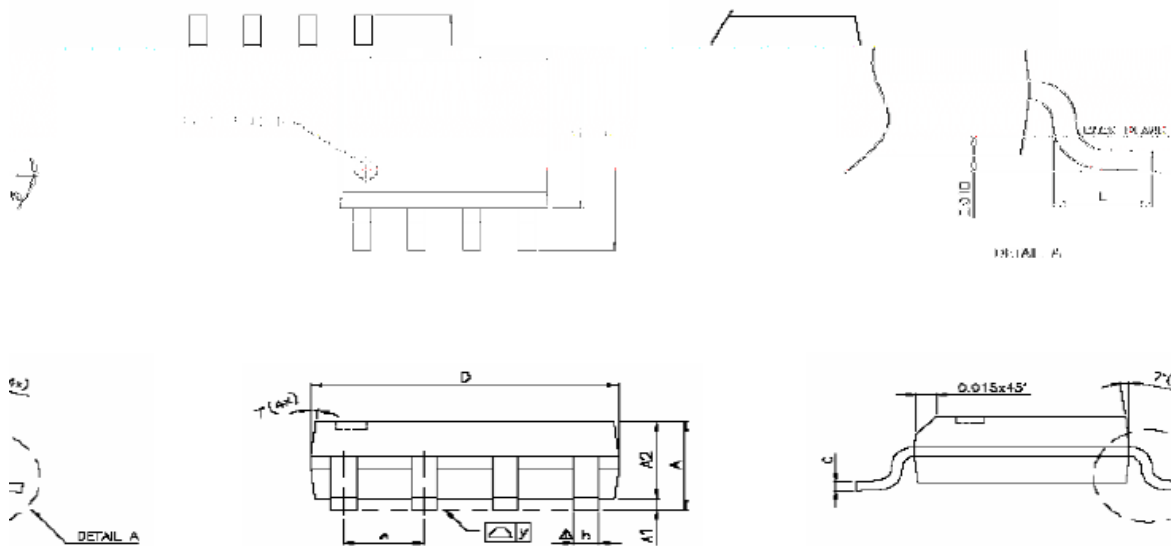
Figure 9: Maximum Forward-Biased Safe Operating Area (Note E)



Thermal Impedance (Note E)

Figure 11: Normalized Maximum Transient Thermal Impedance

**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	0.79	—	—	0.031	—	—
A2	—	—	1.45	—	—	0.057
B	0.025	0.025	0.21	0.001	0.010	0.015
C	0.125	0.19	0.27	0.005	0.0075	0.010
D	0.195	4.83	4.85	0.008	0.185	0.191
E	2.344	5.30	5.30	0.092	0.209	0.209
F1	0.74	0.67	0.67	0.029	0.026	0.026
a	—	—	—	1.27	—	—
L	0.025	0.050	—	0.001	0.002	—
Δy	—	0.003	—	—	0.0001	—
φ	—	8	—	—	8	—