

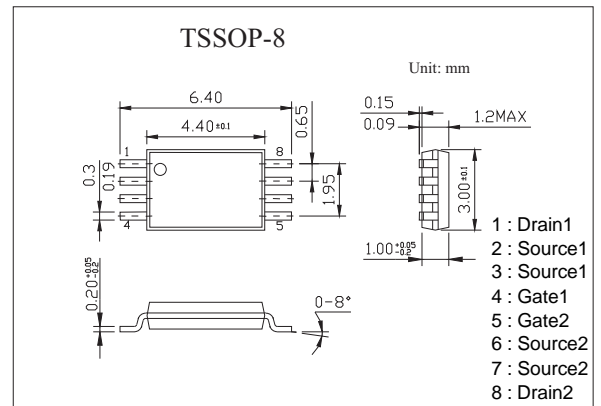
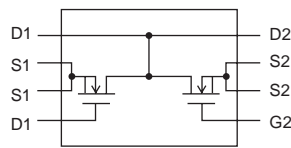
## Dual N-Channel Enhancement Mode MOSFET

## FTD2019

## Features

$R_{DS(ON)}=28m\ \Omega$  Max. @ $V_{GS}=4V$

$R_{DS(ON)}=35m\ \Omega$  Max. @ $V_{GS}=2.5V$

Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	$V_{DS}$	30	V	
Gate-Source Voltage	$V_{GS}$	$\pm 10$	V	
Drain-Current	-Continuous	$I_D$	5	A
	-Pulsed (NOTE 1)	$I_{DM}$	20	A
Power Dissipation (NOTE 2)	$P_D$	1.3	W	
Thermal Resistance, Junction- to-Ambient	$R_{\theta JA}$	96	$^\circ\text{C}/\text{W}$	
Operating Junction and Storage Temperature Range	$T_j, T_{stg}$	-55 to 150	$^\circ\text{C}$	

Note: 1. PW 10 $\mu\text{s}$ , duty cycle 1%

2. Mounted on a ceramic board (1000mm<sup>2</sup>×0.8mm)

## FTD2019

Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V <sub>DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =1mA	30			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V			1	μA
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>GS</sub> =±8V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	0.4		1.3	V
Drain- Source on-state Resistance	R <sub>DS(ON)</sub>	V <sub>GS</sub> =4V, I <sub>D</sub> =5A			28	mΩ
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =2A			35	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 10V, V <sub>GS</sub> = 0V, f = 1.0MHz		1300		pF
Output Capacitance	C <sub>oss</sub>			280		pF
Reverse Transfer Capacitance	C <sub>rss</sub>			160		pF
Turn-On Delay Time	t <sub>D(on)</sub>			18		ns
Rise Time	t <sub>r</sub>	V <sub>DD</sub> =15V, I <sub>D</sub> =5A, V <sub>GS</sub> =4V, R <sub>L</sub> =3Ω, R <sub>GEN</sub> =50Ω		115		ns
Turn-Off Delay Time	t <sub>D(off)</sub>			130		ns
Fall Time	t <sub>f</sub>			145		ns
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 10V, I <sub>D</sub> = 5A, V <sub>GS</sub> = 10V		50		nC
Gate-Source Charge	Q <sub>gs</sub>			2.5		nC
Gate-Drain Charge	Q <sub>gd</sub>			5		nC
Diode Forward Voltage	V <sub>SD</sub>		I <sub>S</sub> =5A, V <sub>GS</sub> =0			1.2

## Marking

Marking	2019
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