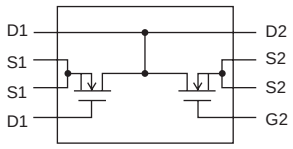
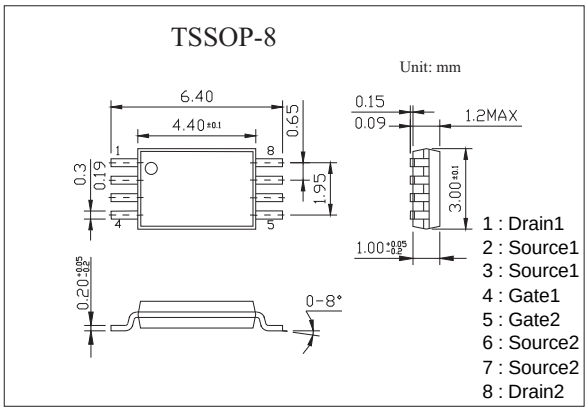
Dual N-Channel Enhancement Mode MOSFET

5N20V

■ Features

- ● $R_{DS(ON)} \leqslant 40m\Omega$ @V_{GS}=4.5V
- ● $R_{DS(ON)} \leqslant 45m\Omega$ @V_{GS}=2.7V





■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±12	V
Drain-Current -Continuous	I_D	5	A
-Pulsed (NOTE 1)	I_{DM}	20	A
Power Dissipation (NOTE 2)	P_D	1.5	W
Thermal Resistance,Junction- to-Ambient	$R_{\theta JA}$	83	℃/W
Operating Junction and Storage Temperature Range	Tj.Tstg	-55 to 150	℃

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. When Mounted on minimum recommended footprint.

5N20V

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	V_{GS}=0V,I_D=1mA	20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=18V,V_{GS}=0V			1	μA
Gate-Body Leakage	I_{GSS}	V_{GS}=±12V,V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},,I_D=250μA	0.6			V
Drain- Source on-state Resistance	$R_{DS(ON)}$	V_{GS}=4.5V,I_D=2.5A		30	40	mΩ
		V_{GS}=2.7V,I_D=2.5A		37	45	mΩ
Input Capacitance	C_{iss}	V_{DS} = 15V, V_{GS} = 0V,f =1.0MHZ		460		pF
Output Capacitance	C_{oss}			200		pF
Reverse Transfer Capacitance	C_{rss}			50		pF
Turn-On Delay Time	$t_{D(on)}$	V_{DD}=10V,I_D=2.5A,V_{GS}=4.5V, R_{GEN}=4.7Ω		7		ns
Rise Time	t_r			33		ns
Turn-Off Delay Time	$t_{D(off)}$			27		ns
Fall Time	t_f			10		ns
Total Gate Charge	Q_g	V_{DS} = 10V, I_D = 4.5A,V_{GS} = 4.5V		8.5	11.5	nC
Gate-S ource Charge	Q_{gs}			1.8		nC
Gate-Drain Charge	Q_{gd}			2.4		nC
Diode Forward Voltage	V_{SD}	I_S=5A, V_{GS}=0			1.2	V
Diode Forward Current	I_S				5	A