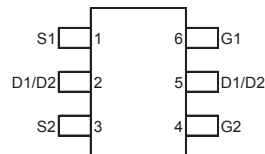
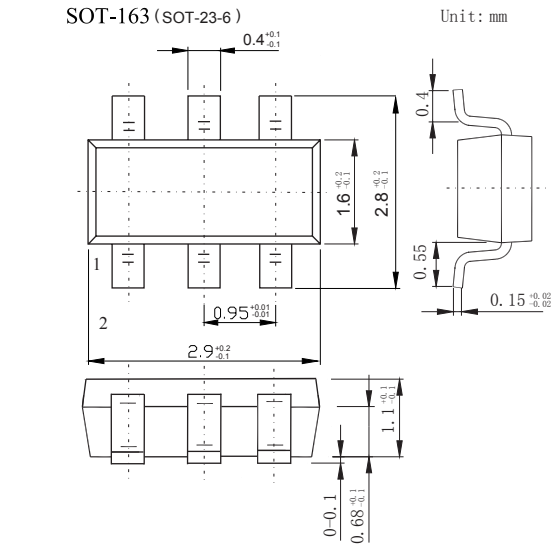
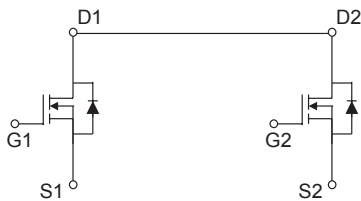


■ Features

- Super high dense cell trench design for low $R_{DS(on)}$.
- Rugged and reliable.
- Surface Mount package.



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous @ $T_a = 25^\circ\text{C}$ *1	I_D	6.0	A
Drain Current-Continuou -Pulse *2	I_{DM}	21.5	A
Drain-Source Diode Forward Current *1	I_S	1.7	A
Maximum Power Dissipation $T_a=25^\circ\text{C}$ *1	P_D	1.25	W
$T_a=75^\circ\text{C}$		0.75	
Operating Junction and Storage Temperature Range	T_J, T_{STG}	- 55 to 150	$^\circ\text{C}$
Thermal Resistance,Junction-to-Ambient	R_{thJA}	100	$^\circ\text{C/W}$

*1 Surface Mounted on FR4 Board , $t \leq 10\text{sec}$.

*2 Pulse width limited by maximum junction temperature.

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$V_{GS} = 0V, I_D = 250 \mu A$	20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$			1	μA
Gate-Body Leakage	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 100	nA
Gate Threshold Voltage *1	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.45		1	V
Drain-Source On-State Resistance *1	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 4.3A$	20		25	$m\Omega$
		$V_{GS} = 2.5V, I_D = 3.4A$	32		37	
Input Capacitance	C_{iss}	$V_{DS} = 8V, V_{GS} = 0V, f = 1.0MHz$		550		pF
Output Capacitance	C_{oss}			164		
Reverse Transfer Capacitance	C_{rss}			138		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 10V, I_D = 1A$ $V_{GEN} = 4.5V$ $R_L = 10\Omega$ $R_{GEN} = 6\Omega$		10		ns
Turn-Off Delay Time	t_r			8.2		ns
Rise Time	$t_{d(off)}$			25		ns
Fall Time	t_f			6.7		ns
Total Gate Charge	Q_g	$V_{DS} = 10V, I_D = 3A, V_{GS} = 4.5V$		6.2		nC
Gate-Source Charge	Q_{gs}			1.8		nC
Gate-Drain Charge	Q_{gd}			1.5		nC
Diode Forward Voltage	V_{SD}	$V_{GS} = 0V, I_S = 1.7A$ *1			1.2	V

*1 Pulse width $\leq 300 \mu s$, Duty Cycle $\leq 2\%$.