JWT965

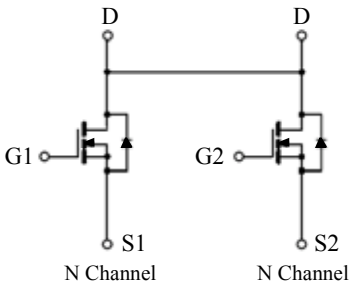
Dual N-Channel High Density Trench MOSFET

PRODUCT SUMMARY		
V_{DSS}	I_D	$R_{DS(on)}$ (m-ohm) Max
20V	6A	28 @ V_{GS} = 4.5V
	5.2A	44 @ V_{GS} = 2.5V

FEATURES

- Super high dense cell trench design for low $R_{DS(on)}$.
- Rugged and reliable.
- Ideal for Li ion battery pack application.

TSSOP-8



ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	± 12	V
Drain Current-Continuous[a] @ T_A = 25 °C		I_D	6	A
-Pulse[b]		I_{DM}	30	A
Drain-Source Diode Forward Current[a]		I_S	1.7	A
Maximum Power Dissipation[a]	T_A=25°C	P_D	1.5	W
	T_A=75°C		0.96	
Operating Junction and Storage Temperature Range		T_J,T_{STG}	- 55 to 150	°C

THERMAL CHARACTERISTICS

Thermal Resistance,Junction-to-Ambient[a]	R_{thJA}	83	°C/W

Note：
a. Surface Mounted on FR4 Board , t ≤ 10sec .
b. Pulse Test：Pulse width ≤ 300us , Duty Cycle ≤ 2% .

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ[c]	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} = 0V , I_D = 250uA	20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 20V , V_{GS} = 0V			1	uA
Gate-Body Leakage	I_{GSS}	V_{GS} = ±12V, V_{DS} = 0V			±100	nA
ON CHARACTERISTICS[b]						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS} , I_D = 250uA	0.6		1.5	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS} = 4.5V , I_D = 6A		24	28	m-ohm
		V_{GS} = 2.5V , I_D = 5.2A		34	44	
DRAIN-SOURCE DIODE CHARACTERISTICS[b]						
Diode Forward Voltage	V_{SD}	V_{GS} = 0V , I_S = 1.7A			1.2	V
SWITCHING CHARACTERISTICS[c]						
Turn-On Delay Time	$t_{D(ON)}$	V_{DD} = 10V , I_D = 1A V_{GEN} = 4.5V R_L = 10 ohm R_{GEN} = 6 ohm		8.1		ns
Rise Time	t_r			9.95		ns
Turn-Off Delay Time	$t_{D(OFF)}$			21.85		ns
Fall Time	t_f			5.35		ns
Total Gate Charge	Q_g	V_{DS} = 10V , I_D = 6A V_{GS} = 4.5V		4.86		nC
Gate-Source Charge	Q_{gs}			0.92		nC
Gate-Drain Charge	Q_{gd}			1.4		nC

Note：
b. Pulse Test：Pulse width ≤ 300us , Duty Cycle ≤ 2% .
c. Guaranteed by design , not subject to production testing .