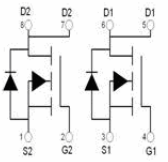
SEMICONDUCTOR
TECHNICAL DATA

FTK9926

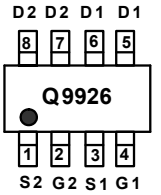
FEATURE

- Advanced trench process technology
- High density cell design for ultra low on-resistance
- High power and current handing capability
- Ideal for Liion battery pack applications

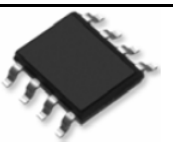


N-channel N-channel

Schematic diagram



Marking and pin Assignment



SOP-8 top view

PACKAGE MARKING AND ORDERING INFORMATION

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity
Q9926	FTK9926	SOP-8	Ø330mm	12mm	2500 units

ABSOLUTE MAXIMUM RATINGS(TA=25℃unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current *	I_D	4.8	A
Pulsed Drain Current	I_{DM}	30	A
Power Dissipation *	P_D	1.25	W
Thermal Resistance from Junction to Ambient *	$R_{\theta JA}$	100	℃/ W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55~+150	℃

*Surface Mounted on 1" x 1" FR4 Board.

Electrical characteristics (T_a=25℃ unless otherwise noted)

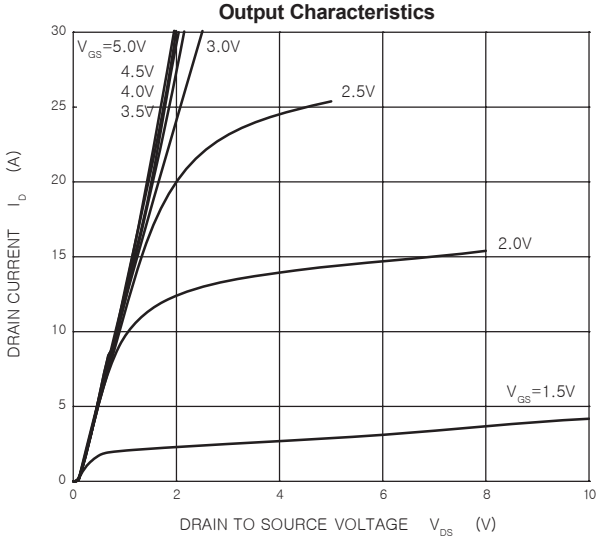
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, b =250μA	20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =20V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±12V, V_{DS}= 0V			±100	nA
Gate threshold voltage (note 1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.6		1.2	V
Drain-source on-resistance (note 1)	$V_{DS(on)}$	V_{GS} =2.5V, I_D=5A			40	mΩ
		V_{GS} =4.5V, I_D=6A			30	mΩ
Forward transconductance (note 1)	g_{FS}	V_{DS} =15V, I_D =6A	15			S
SWITCHING CHARACTERISTICS (note 2)						
Turn-on delay time	$t_{d(on)}$	V_{GEN}=4.5V,V_{DD}=15V, R_{GEN}=6Ω, I_D =1A, R_L=15Ω			35	ns
Turn-on rise time	t_r				60	ns
Turn-off delay time	$t_{d(off)}$				75	ns
Turn-off fall time	t_f				30	ns
Total gate charge	Q_g	V_{DS} =15V,V_{GS} =4.5V,I_D =6A			20	nC
Gate-source Charge	Q_{gs}			3		nC
Gate -drain Charge	Q_{gd}			3.3		nC
SOURCE-DRAIN DIODE CHARACTERISTICS						
Maximum diode forward current	I_S				1	A
Diode forward voltage (note 1)	I_{SD}	I_S=1.7A,V_{GS}=0V			1.2	V
Source-Drain Reverse Recovery Time	t_{rr}	I_F = 1.7 A, di/dt = 100A/μs			80	ns

Notes :

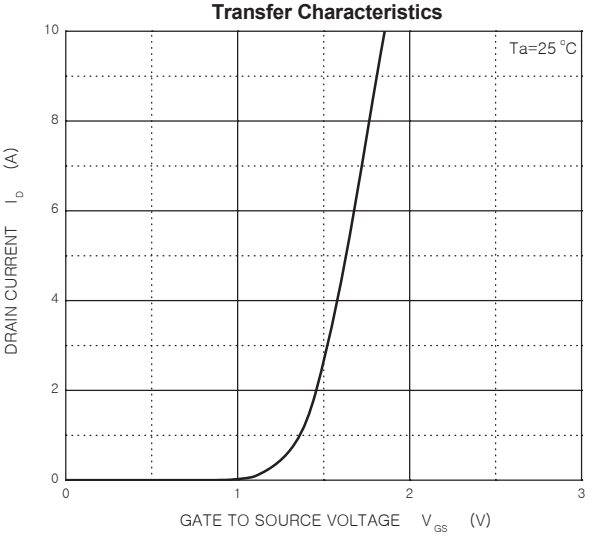
1. Pulse Test : Pulse Width≤300μs, Duty Cycle≤2%.
2. Guaranteed by design, not subject to production

Typical Characteristics

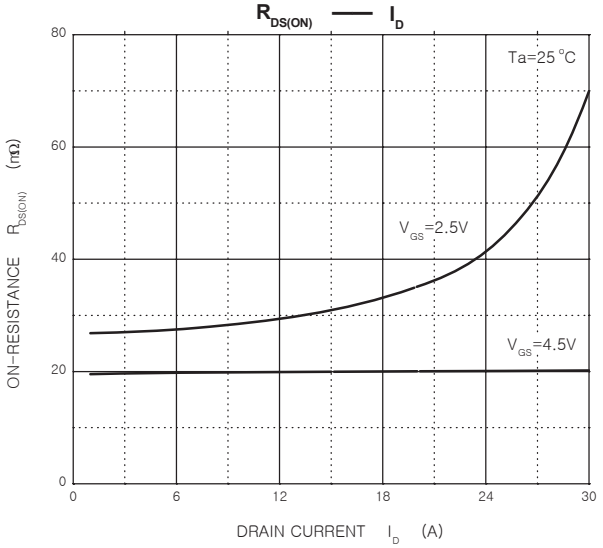
Output Characteristics



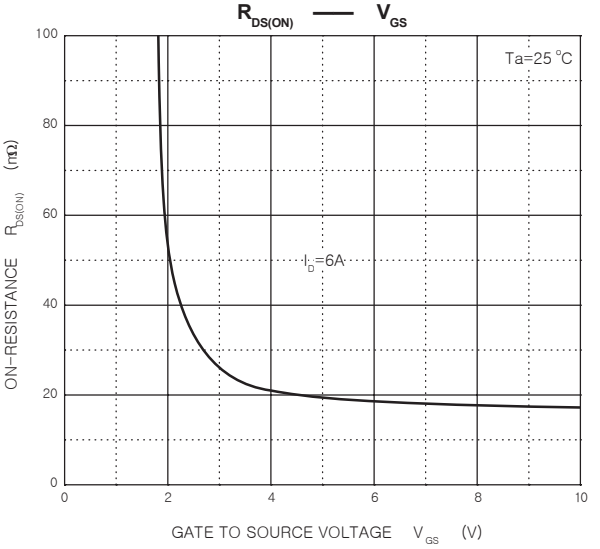
Transfer Characteristics



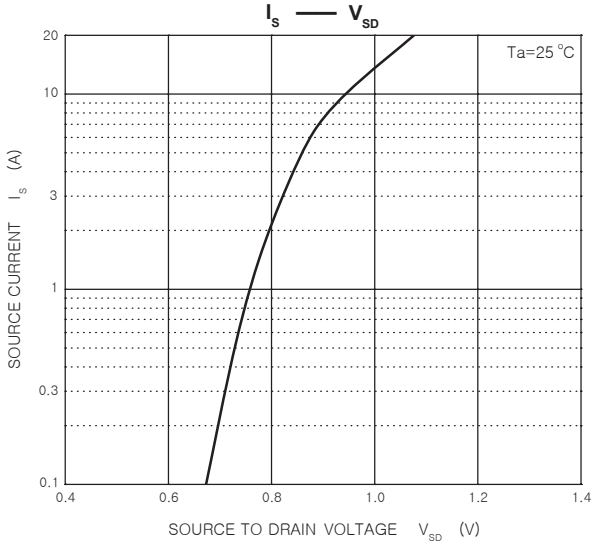
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}

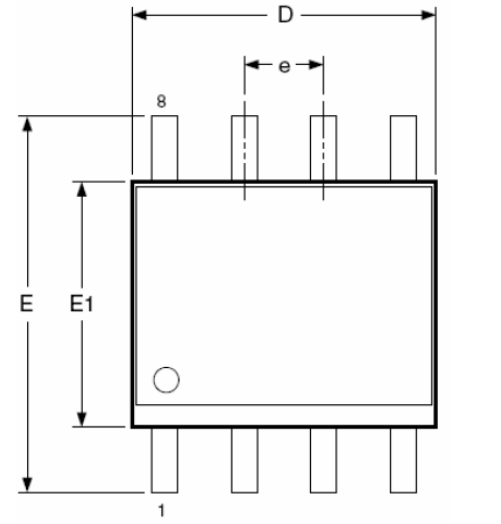


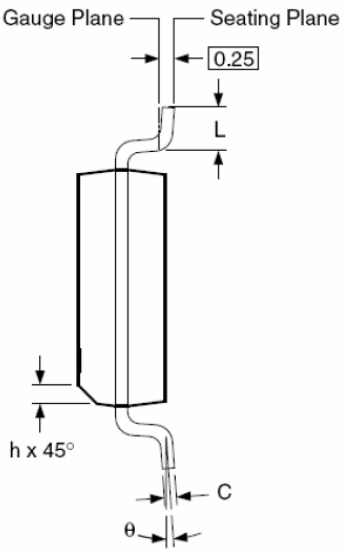
I_S — V_{SD}

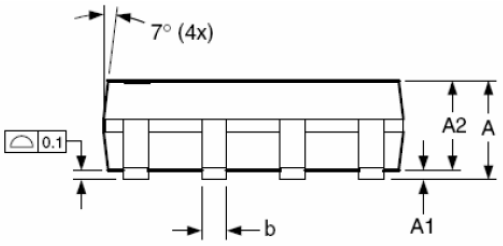


SOP-8 PACKAGE INFORMATION

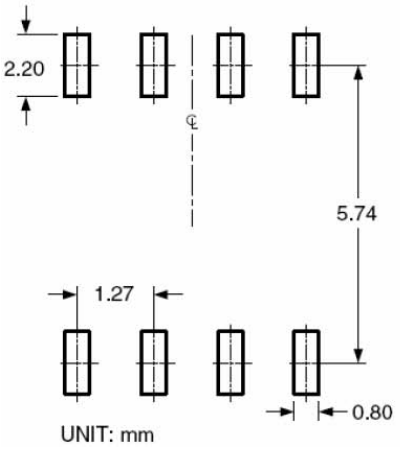
Dimensions in Millimeters (UNIT:mm)







RECOMMENDED LAND PATTERN



Dimensions in millimeters

Symbols	Min.	Nom.	Max.
A	1.35	1.65	1.75
A1	0.10	—	0.25
A2	1.25	1.50	1.65
b	0.31	—	0.51
c	0.17	—	0.25
D	4.80	4.90	5.00
E1	3.80	3.90	4.00
e	1.27 BSC		
E	5.80	6.00	6.20
h	0.25	—	0.50
L	0.40	—	1.27
θ	0°	—	8°

Dimensions in inches

Symbols	Min.	Nom.	Max.
A	0.053	0.065	0.069
A1	0.004	—	0.010
A2	0.049	0.059	0.065
b	0.012	—	0.020
c	0.007	—	0.010
D	0.189	0.193	0.197
E1	0.150	0.154	0.157
e	0.050 BSC		
E	0.228	0.236	0.244
h	0.010	—	0.020
L	0.016	—	0.050
θ	0°	—	8°

NOTES:

1. All dimensions are in millimeters.
2. Dimensions are inclusive of plating
3. Package body sizes exclude mold flash and gate burrs. Mold flash at the non-lead sides should be less than 6 mils.
4. Dimension L is measured in gauge plane.
5. Controlling dimension is millimeter, converted inch dimensions are not necessarily exact.