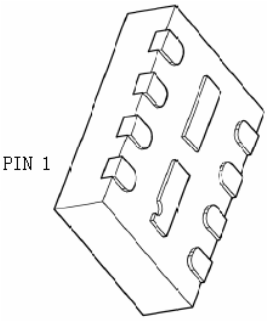
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

DFNWB3×2-08L-B Power Management MOSFETS-Schottky

CJHD3101F P-channel MOSFET and Schottky Barrier Diode

DFNWB3×2-08L-B



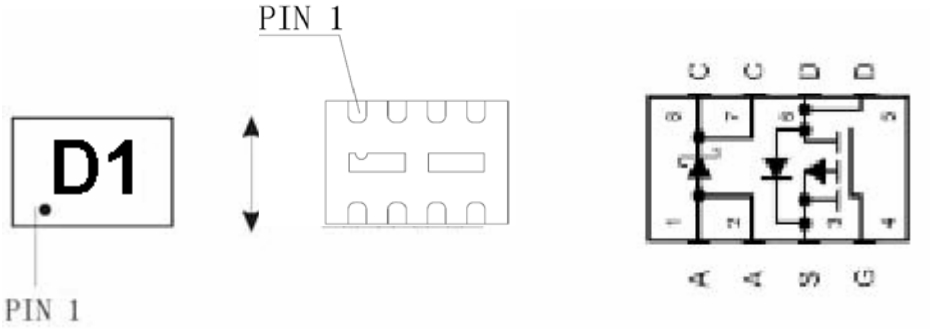
FEATURES

- Both a MOSFET Chip and a Schottky Diode Ship in an Package.
- Leadless Package Provides Great Thermal Characteristics
- Independent Pinout to Each Device to Ease Circuit Design
- Trench P−Channel for Low On Resistance
- Ultra Low V_F Schottky
- Pb−Free Package are Available

APPLICATIONS

- Li−Ion Battery Charging
- High Side DC−DC Conversion Circuits
- High Side Drive for Small Brushless DC Motors
- Power Management in Portable, Battery Powered Products

MARKING



MOSFET MAXIMUM RATINGS (Ta = 25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V_{DSS}	Drain-Source voltage	-20	V
V_{GS}	Gate-Source Voltage	±8	V
I_D	Continuous Drain Current	-3.2	A
I_{DM}	Drain Current-Pulsed	-13	A
P_D	Power Dissipation	1.1	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	110	℃ /W

SCHOTTKY DIODE MAXIMUM RATINGS(T_a= 25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{RRM}	**Peak repetitive reverse voltage**	20	V
V_R	**DC Blocking voltage**	20	V
I_F	**Average rectified forward current**	2.2	A

MOSFET ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} = 0V, I_D = -250μA	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =-16V,V_{GS} = 0V			-1	μA
Gate –Source leakage current	I_{GSS}	V_{GS} =±8V, V_{DS} = 0V			±100	nA
On Characteristics (Note 1)						
Gate Threshold Voltage	$V_{GS(th)}$	V_{GS} = V_{DS}, I_D =-250μA	-0.45		-1.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = -4.5V, I_D = -3.2A			80	mΩ
		V_{GS} = -2.5V,I_D = -2.2A			110	mΩ
		V_{GS} = -1.8V,I_D = -1A			170	mΩ
Forward Transconductance	g_{FS}	V_{DS} = -10V, I_D = -2.9A		8.0		S
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS} =-10V,V_{GS} =0V,f =1MHz		680		pF
Output Capacitance	C_{oss}			100		pF
Reverse Transfer Capacitance	C_{rss}			70		pF
Total Gate Charge	$Q_{G(TOT)}$	V_{DS} = -10V, I_D = -3.2A, V_{GS} =-4.5V		7.4		nC
Threshold gate charge	$Q_{G(TH)}$			0.6		nC
Gate-Source Charge	Q_{GS}			1.4		nC
Gate-Drain Charge	Q_{GD}			2.5		nC
Switching Characteristics(note 2)						
Turn-On Delay Time	$t_{d(on)}$	V_{GS} = -4.5V V_{DD} = -10V, I_D = -3.2A, R_G=2.4Ω,		5.8		ns
Turn-On Rise Time	t_r			11.7		ns
Turn-Off Delay Time	$t_{d(off)}$			16		ns
Turn-Off Fall Time	t_f			12.4		ns
Drain-Source Diode Characteristics and Maximun Ratings						
Forward Diode Voltage	V_{SD}	V_{GS} = 0V, I_S = -2.5A			-1.2	V

1. Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%.
2. Switching characteristics are independent of operating junction temperatures.

SCHOTTKY DIODE ELECTRICAL CHARACTERISTICS (Ta= 25°C unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	V_{F1}		0.425			I_F=0.1A
	V_{F2}			0.575		I_F=1A
Reverse current	I_{R1}			1	μA	V_R=10V
	I_{R2}			5	μA	V_R=20V