

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

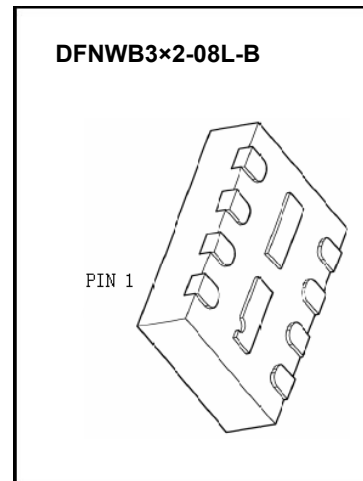
CJHD3101F P-channel MOSFET and Schottky Barrier Diode

FEATURES

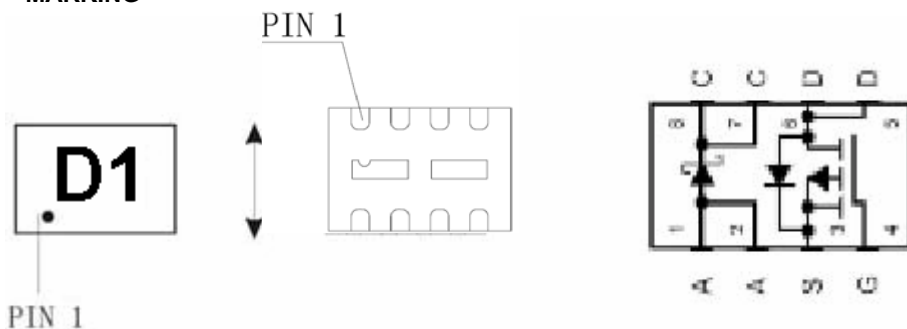
- Both a MOSFET Chip and a Schottky Diode Ship in an Package.
- Leadless Package Provides Great Thermal Characteristics
- Independent Pinout to Each Device to Ease Circuit Design
- Trench P-Channel for Low On Resistance
- Ultra Low V_f Schottky
- Pb-Free Package are Available

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	°C
T_{stg}	Storage Temperature	-55-150	°C
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	110	°C /W

SCHOTTKY DIODE MAXIMUM RATINGS(Ta= 25°C 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°C 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