

800-900 MHz +36 dBm Power GaAs FET

August 2006 - Rev 03-Aug-06

CFH2162-P1

Features

- ❑ High Gain
- ❑ +36 dBm Power Output
- ❑ Proprietary Power FET Process
- ❑ >45% Linear Power Added Efficiency
- ❑ +33 dBm with 30 dBc Third Order Products

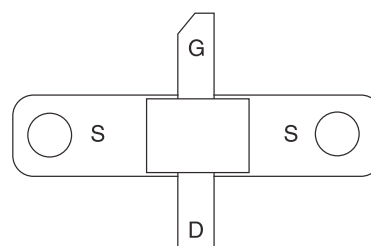
Applications

- ❑ ISM Band Base Stations
- ❑ Cellular Base Stations
- ❑ Wireless Local Loop

Description

The CFH2162-P1 is a high-gain, linear FET intended for driver amplifier applications in high-power systems, and output stage usage in medium power applications at power levels up to +36 dBm. The device is easily matched and pro-

Package Diagram



vides excellent linearity at 4 Watts. Manufactured in Celeritek's proprietary power FET process, this device is assembled in a power flange package.

Specifications (TA = 25°C) The following specifications are guaranteed at room temperature in Celeritek test fixture at 850 MHz.

Parameters	Conditions	Min	Typ	Max	Units
V_d = 10V, I_d = 1100 mA (Quiescent)					
P _{-1dB}		36.0	37.0	—	dBm
G _{-1 dB}		19.0	20.0	—	dB
3rd Order Products (1)		30	35	—	dBc
Efficiency	@ P1dB	—	45	—	%
V_d = 8V, I_d = 1300 mA (Quiescent)					
P _{-1dB}		—	36.0	—	dBm
G _{-1 dB}		—	19.0	—	dB

Parameters	Conditions	Min	Typ	Max	Units
g _m	V _{ds} = 2.0V, V _{gs} = 0V	—	1700	—	mS
I _{dss}	V _{ds} = 2.0V, V _{gs} = 0V	—	2.8	—	A
V _p	V _{ds} = 3.0V, I _{ds} = 65 mA	—	-1.8	—	Volts
BV _{GD}	I _{gd} = 6.5 mA	20	24	—	Volts
Θ _{JL} (2)	@ 150°C TCH	—	8	—	°C/W

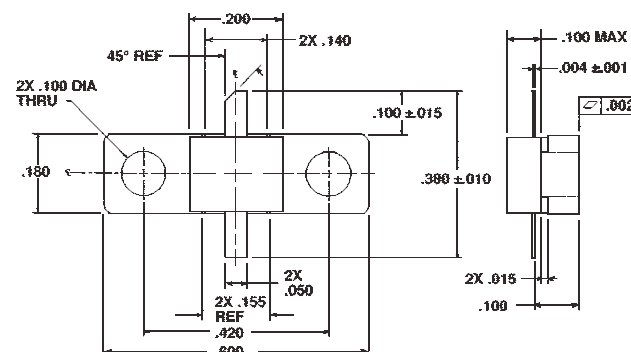
Absolute Maximum Ratings

Parameter	Symbol	Rating
Drain-Source Voltage	V _{DS}	15V (3)
Gate-Source Voltage	V _{GS}	-5V
Drain Current	I _{DS}	I _{dss}
Continuous Dissipation	P _T	10W
Channel Temperature	T _{CH}	175°C
Storage Temperature	T _{STG}	-65°C to +175°C

Notes:

- Sum to two tones with 1 MHz spacing = 33 dBm.
- See thermal considerations information.
- Maximum potential difference across the device (V_d + V_g) cannot exceed 18V.

Power Flange Package Physical Dimensions



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Ordering Information

The CFH2162-P1 power stage is available in a SOIC-8 surface mount package. Devices are available in tape and reel. Ordering part numbers are listed.

<u>Part Number for Ordering</u>	<u>Function</u>	<u>Package</u>
CFH2162-P1	800 - 900 MHz Power Stage	Power flange package