

## **CFH2162-P5**

2.3 to 2.5 GHz  
+36 dBm Power GaAs FET

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## Advanced Product Information May 1996 (1 of 2)

## 2.3 to 2.5 GHz +36 dBm Power GaAs FET

### Features

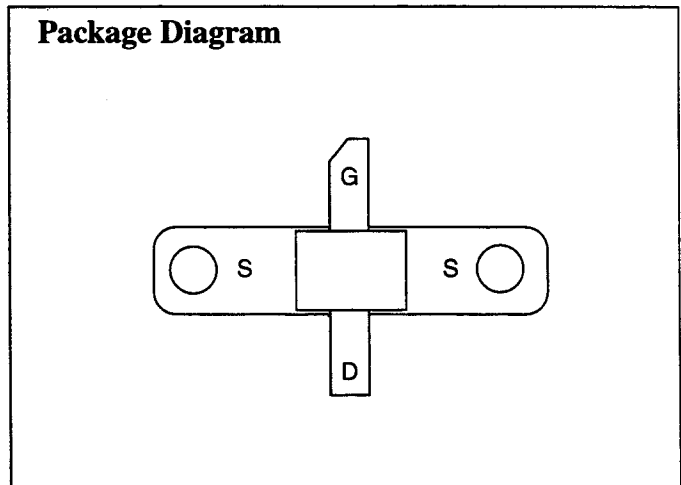
- High Gain
- +36 dBm Power Output
- Proprietary Power FET Process
- >45% Linear Power Added Efficiency
- +33 dBm with 30 dBc Third Order Products

### Applications

- RF ID/POS Base Stations
- Wireless Local Loop

### Description

The CFH2162-P5 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-



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 2.45 GHz.

Parameters	Conditions	Min	Typ	Max	Units
$V_d = 10V, I_d = 1100 \text{ mA}$ (Quiescent)					
P-1dB		35.5	36.5	—	dBm
G-1 dB		11.0	12.0	—	dB
3rd Order Products (1)		30	35	—	dBc
Efficiency	@ P1dB	—	43	—	%
$V_d = 8V, I_d = 1300 \text{ mA}$ (Quiescent)					
P-1dB		—	35.5	—	dBm
G-1 dB		—	10.0	—	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
$V_p$	$V_{ds} = 3.0V, I_{ds} = 65 \text{ mA}$	—	-1.8	—	Volts
$BV_{GD}$	$I_{gd} = 6.5 \text{ mA}$	20	24	—	Volts
$\theta_{JL}$ (2)	@150°C TCH	—	8	—	°C/W

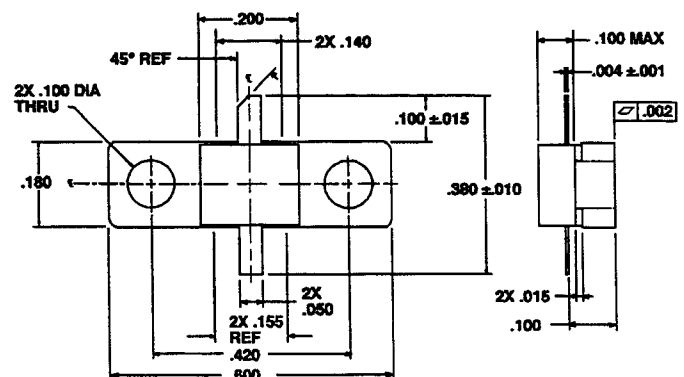
### Absolute Maximum Ratings

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:

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

### Power Flange Package Physical Dimensions



### Ordering Information

The CFH2162-P5 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-P5	2.3 - 2.5 GHz Power Stage	Power flange package

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