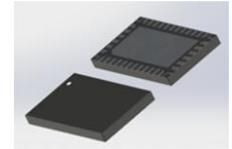


## Dual 15W GaN RF Power Transistor

### Description

NGD2542030BHPO1 is a symmetric dual path fully matched GaN transistor module. This dual path module offers great versatility for a multitude of applications and configurations. For pulsed S-Band Radar applications 2.7-3.5GHz or LTE/5G mobile communication systems in band 41, 48 and 77/78. It features high gain, high efficiency and high linearity capabilities in a small and efficient 10x6mm plastic package.

### NGD2542030HPO1



### Typical Applications

- 5G, LTE and multi-standard amplifiers.
- S-Band radar amplifiers.

### Features

- Dual Path
- 50Ω I/O

### Maximum Ratings

Rating	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	180	Vdc
Gate-Source Voltage	$V_{GS}$	-8 to +0.5	Vdc
Operating Voltage	$V_{DD}$	55	Vdc
Maximum gate current	$I_{gs}$	13	mA
Storage Temperature Range	$T_{stg}$	-65 to +150	°C
Case Operating Temperature	$T_c$	+150	°C
Operating Junction Temperature	$T_j$	+225	°C
Load Mismatch	VSWR	10:1	$\Psi$
Thermal Resistance (Each path)	$R_{\theta JC}$	10	°C/W

### Electrical Characteristics

#### DC Characteristics

Characteristic	Conditions	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{GS} = -8V$ ; $I_{DS} = 5mA$	$V_{DSS}$	200			V
Gate Threshold Voltage	$V_{DS} = 10V$ , $I_D = 5mA$	$V_{GS(th)}$		-3.2		V
Gate Quiescent Voltage	$V_{DS} = 50V$ , $I_{DS} = 55mA$ ,	$V_{GS(Q)}$		-3		V

#### RF Characteristics

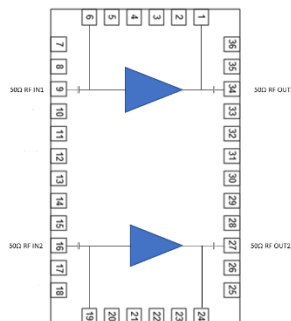
Data for one single path, as measured in test fixture, Pulsed RF 50 $\mu$ s/20%,  $V_D = 50V$ ,  $F = 4.0$  GHz

Characteristics	Symbol	Min.	Typ.	Max.	Unit	Conditions
Output power	$P_{-1dB}$		12		W	
Power gain	$GP_{-1dB}$		14		dB	
Output power	$P_{-3dB}$		15		W	
Efficiency	$\eta_{P-3dB}$		55		%	

**Single path performance as measured in test fixture**

V <sub>DS</sub> = 50V, I <sub>dq</sub> =20mA					
Pulsed RF					
Freq (MHz)	P-1 (dBm)	P-1Gain (dB)	P-3 (dBm)	P-3 (W)	η (%)
2500	40.79	14.0	42.54	17.9	51.4
2600	41.45	14.0	42.74	18.8	55.3
2700	41.49	13.8	42.77	18.9	55.8
2800	41.69	13.2	42.86	19.3	58.0
2900	41.70	13.9	42.76	18.9	58.7
3000	41.42	14.3	42.58	18.1	57.0
3100	41.38	13.8	42.58	18.1	56.9
3200	41.36	13.1	42.38	17.3	55.3
3300	41.33	13.0	42.21	16.6	55.5
3400	41.35	13.6	42.09	16.2	55.4
3500	41.18	14.1	41.98	15.8	55.6
3600	40.93	13.9	41.86	15.3	53.6
3700	40.87	13.4	41.95	15.7	53.1
3800	40.64	13.5	42.02	15.9	53.0
3900	40.65	13.6	41.95	15.7	53.1
4000	40.24	14.0	41.82	15.2	54.9

**Functional block diagram and pinning**



## Package Dimensions

