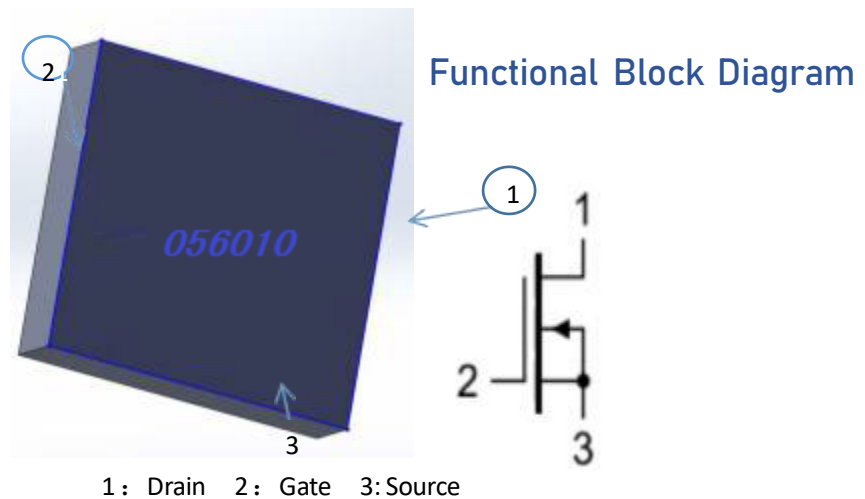


Description

HX056010F5 GaN pre-matched power transistor is a pre-matched power amplifier based on 0.5um GaN HEMT process, which can provide more than 10W output power within 0.5~6GHz, with high gain, high efficiency and wide frequency band. It can support CW, pulse or any modulated signal. This product adopts 4mm*4.5mm DFN package, which can be used by surface mount.

Features

- Frequency: 0.5 to 6 GHz
- Output Power(Psat) : 10 W
- Power Gain: 10dB@5.8GHz
- Typical DE (Psat): 55%@5.8GHz
- Operating Voltage: 28 V
- CW and Pulse capable



Applications

- Base station
- Radio relay station
- Military radar
- Civilian radar
- Test instrumentation
- Jammers
- Microwave oven

Recommended Operating Conditions

Parameter	Min	Typ	Max	Units
Operating Temp Range	10	+25	50	°C
Drain Voltage Range, V_D	24	28	32	V
Drain Bias Current, I_{DQ}		200		mA
Gate Voltage, V_G	-2.9	-2.4	-2	V

Electrical performance is measured under conditions noted in the electrical specifications table.

Notes:

1. To be adjusted to desired I_{DQ} .

Absolute Maximum Ratings

Parameter	Min	Typ	Max	Units
Breakdown Voltage, BV_{DG} , $T = 25^\circ\text{C}$		100		V
Gate Voltage Range, V_G , $T = 25^\circ\text{C}$	-5	-2.5	-2	V
Storage Temperature	-55	25	125	°C
Channel Temperature			175	°C

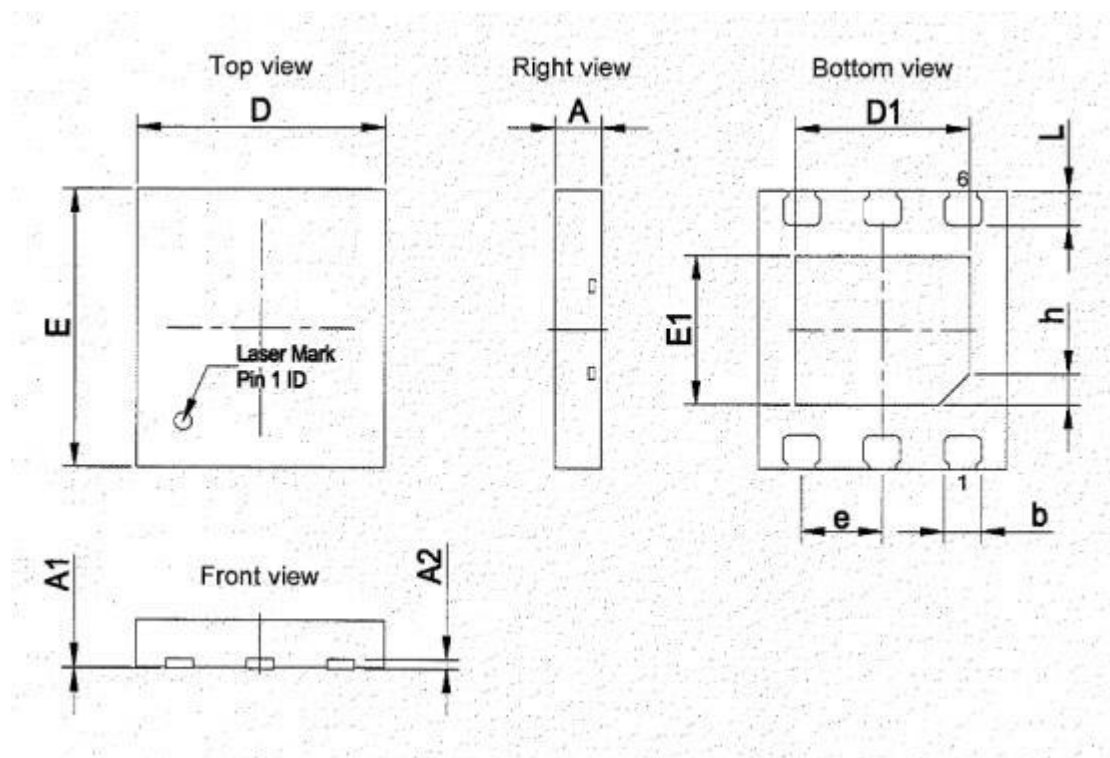
Microwave electrical properties

Item	Symbol	Drain Voltage (V)	Frequency (GHz)	Parameter			Units
				Min	Typ	Max	
Saturation Power	Psat	28	0.5~6	40.1	40.4	-	dBm
Drain Efficiency	DE		0.5~2	-	70	-	%
			2~4	-	65	-	
			4~6	-	55	-	
Power Gain	GP		0.5~2	-	14	-	dB
			2~4	-	12	-	
		4~6	-	10	-		
Output VSWR	VSWRout	28	DC~2	10:1 no damage			-

Typical performance

Operating Frequency	Pin	Pout	I _{ds}	Gain	%
5.6Ghz	30dBm	40.3dBm	0.65	10.3	59
5.7Ghz	30dBm	40.4dBm	0.66	10.4	59.3
5.8Ghz	30dBm	40.4dBm	0.66	10.4	59.3
5.9Ghz	30dBm	40.2dBm	0.64	10.2	58

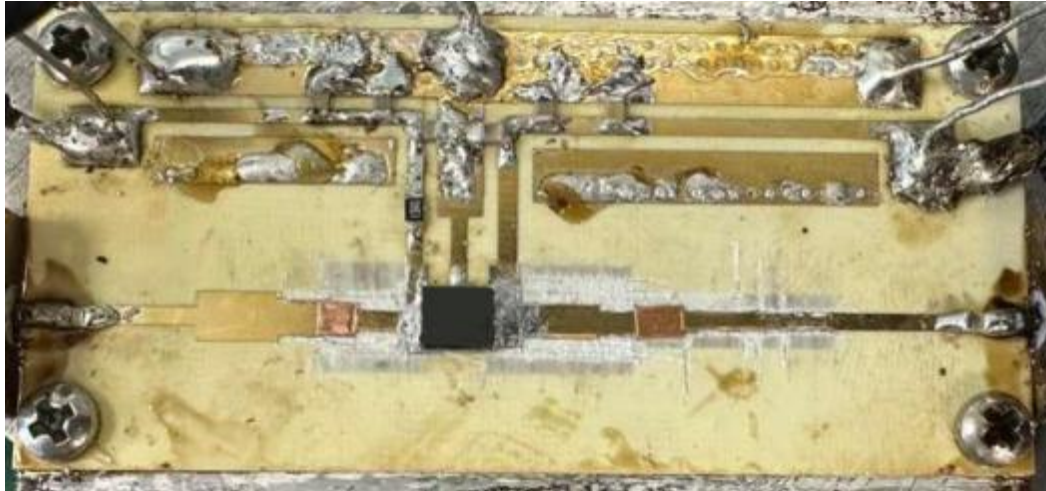
Packaging



	SYMBOL	MIN	NOM	MAX
TOTAL THICKNESS	A	0.70	0.75	0.80
STAND OFF	A1	0.00	0.02	0.05
L/F THICKNESS	A2	0.203REF		
BODY SIZE X	D	3.90	4.00	4.10
BODY SIZE Y	E	4.40	4.50	4.60
EP SIZE X	D1	2.70	2.81	2.90
EP SIZE Y	E1	2.30	2.40	2.50
LEAD WIDTH	b	0.55	0.60	0.65
LEAD PITCH	e	1.30BSC		
LEAD LENGTH	L	0.50	0.55	0.60
CHAMFER	h	0.45	0.50	0.55
LF PAD SIZE	X	3.50	Y	2.70

Application

The following circuit is the recommended circuit for 5.7~5.9GHz



Precautions

When the product is powered on, the gate voltage VGS should be added first, followed by the drain voltage VDS;

When the product is powered off, the drain voltage VDS should be removed first, and then the gate voltage VGS should be removed.

Product requires anti-static operation.