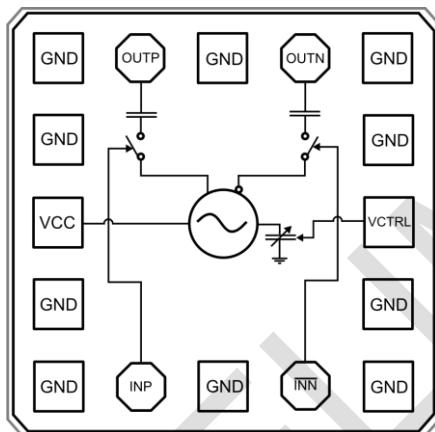


**Typical applications**

Fully Integrated On-Off Keying (OOK) transmitter can be used in:

- Short Range High Capacity Links,
- V Band Applications,
- Mobile Terminals,
- Battery Operated Devices.

**Functional diagram**

**Features**

Pout: +5.5 dBm

Phase Noise: -90 dBc/Hz @ 1 MHz

Modulation Bandwidth: 1 GHz

100  $\Omega$  Differential Output

Supply Voltage: +3.0 V

Power Consumption: 114 mW

Die Size: 0.54 x 0.54 mm<sup>2</sup>

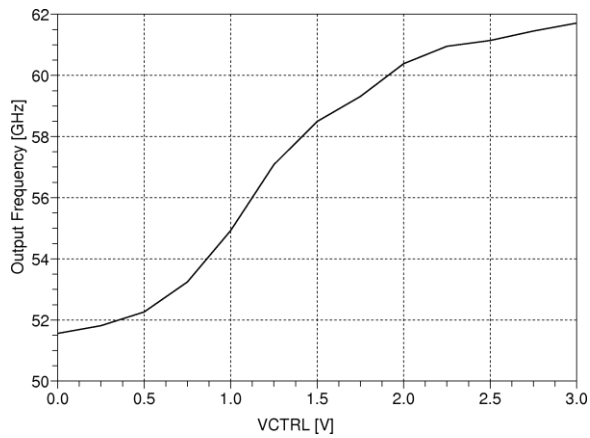
**General description**

The TS-OOK-60 is an MMIC On-Off Keying (OOK) transmitter intended for use in 60 GHz applications. Input signal is electrically compatible with LVDS standard. Switches are fast enough for 2 Gbps transmission. Differential 100  $\Omega$  outputs can directly drive the differential antenna, or be combined via balun into a single ended signal. Wide Modulation Bandwidth of 1 GHz also enables the use as an FM modulator.

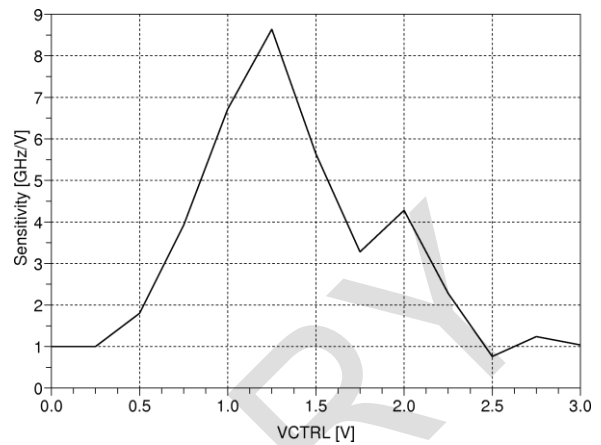
**Electrical specifications,  $T_A=25\text{ }^\circ\text{C}$ , 50 Ohm system, Measured with 1:2 Balun,  $V_{CC}=3.0\text{V}$** 

Parameter	Min	Typ.	Max	Units
Frequency Range	53 – 62			GHz
Power output	3		5.5	dBm
SSB Phase Noise @ 1 MHz Offset		-90		dBc/Hz
Tune Voltage	0		3	V
Supply Current		38		mA
Modulation Bandwidth (VCTRL = 1.5 V)		1		GHz
INP, INN voltage (differential LVDS)	1.0		1.4	V

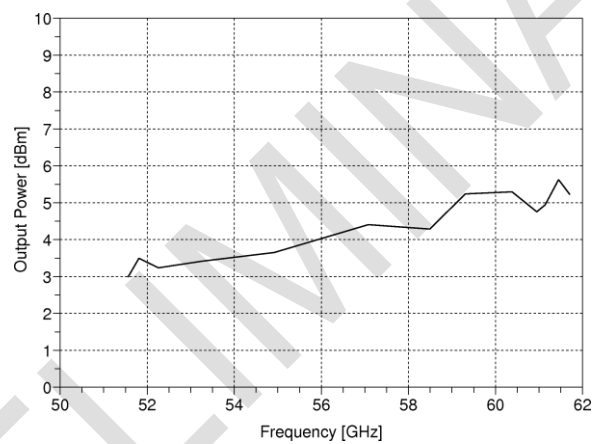
**Frequency vs. Tuning Voltage**



**Sensitivity vs. Tuning Voltage**



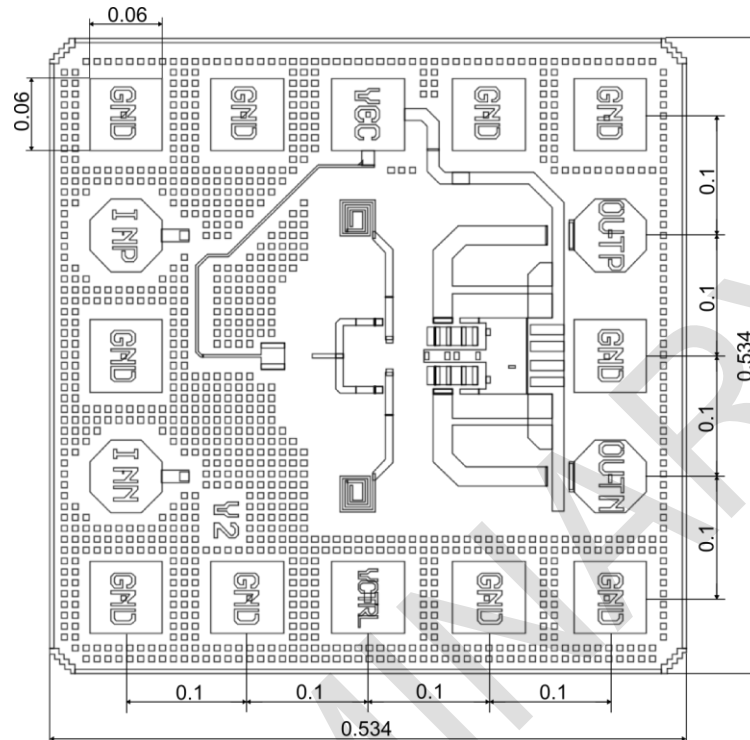
**Output Power vs. Frequency**



**Absolute Maximum Ratings**

Parameter	Min	Typ.	Max	Units
Supply Voltage			3.2	V
Control Voltage			3.5	V
Voltage at INP, INN	0.9		1.5	V
Operating Temperature	TBD		TBD	°C
Storage Temperature	-50		150	°C

**Outline Drawing and Chip Identification Information**

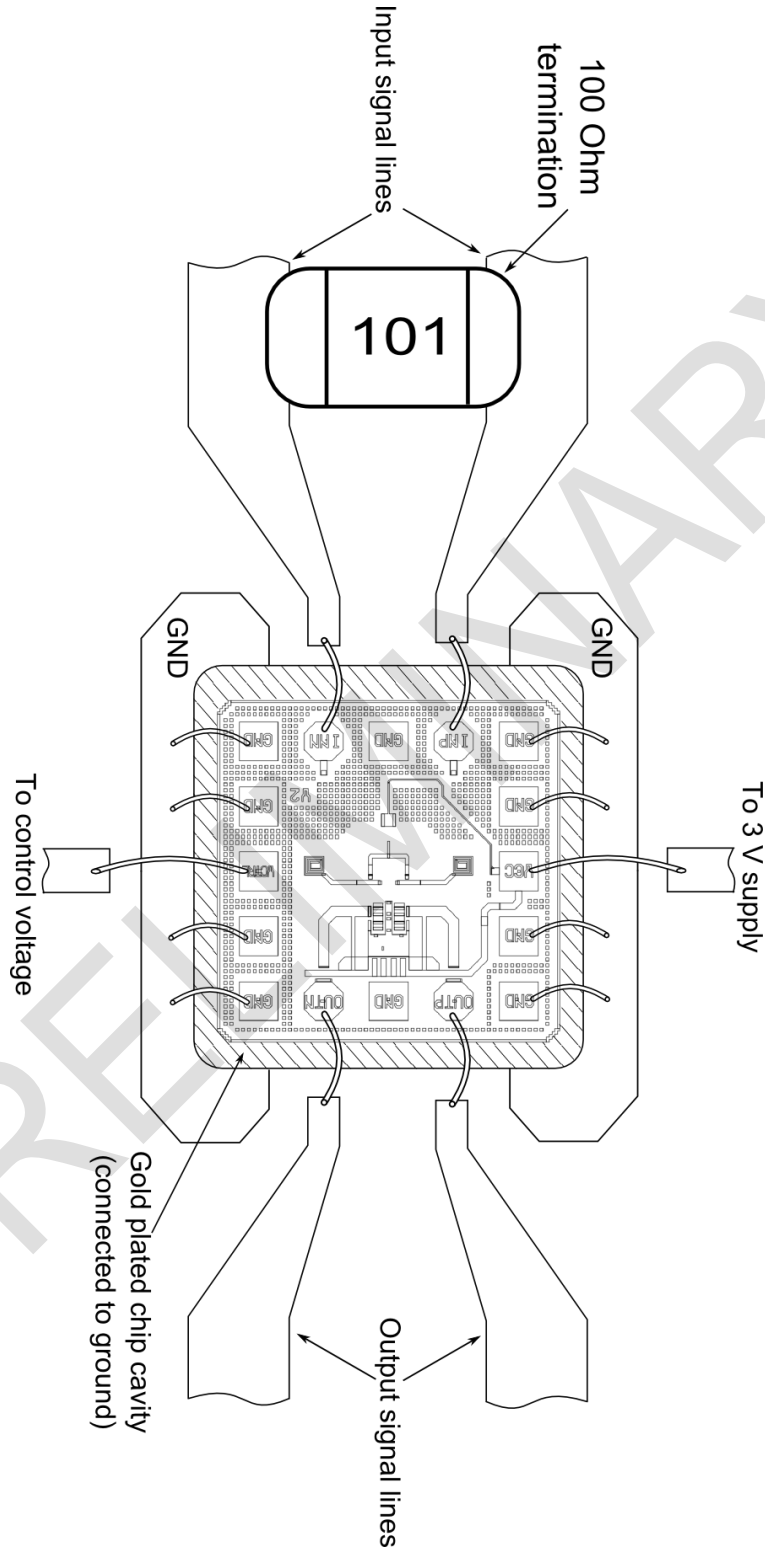


**ELECTROSTATIC SENSITIVE DEVICE  
HANDLE IN ESD SAFE ENVIRONMENT**

**Pad Descriptions**

Pad	Function	Description	Interface
VCC	Power	3.0 V DC Supply	Power
VCTRL	Control	0 -3 V Control Voltage	Control
GND	Power	Ground	Power
OUTP	Output	Differential signal output +	AC coupled
OUTN	Output	Differential signal output -	AC coupled
INP	Input	Differential signal input + ( $V_{IN}=1.2 \pm 0.2$ V)	DC coupled
INN	Input	Differential signal input - ( $V_{IN}=1.2 \pm 0.2$ V)	DC coupled

**Assembly Diagram**



All bonds should be as short as possible.

**Revision information**

Version	Change List
1.0	Preliminary data

PRELIMINARY

**Notes:**

PRELIMINARY

**DISCLAIMER**

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