



30W,50V Plastic RF LDMOS Transistor

ITGV10030T2

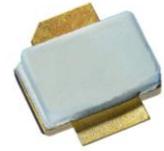
Description

The ITGV10030T2 is a 30-watt, highly rugged, LDMOS transistor, designed for any general applications at frequencies up to 1.5GHz. **It is based on air cavity plastic package named as T2 with outline highly compatible as TO270 from other suppliers**

- Typical Class AB RF Performance (On Innogration fixture with device soldered).

V_{ds}=50V, I_{dq}=35mA

Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff (%)	P1dB Gain (dB)	P3dB (dBm)	P3dB (W)	P3dB Eff (%)
1400	43.84	24.2	62.1	22.51	44.82	30.3	63.5



Features

- High Efficiency and Linear Gain Operations
- Integrated ESD Protection
- Excellent thermal stability, low HCl drift
- Large Positive and Negative Gate/Source Voltage Range for Improved Class C Operation
- Pb-free, RoHS-compliant

Suitable Applications

- RF power amplifiers for CW applications
- Industrial, scientific and medical applications
- Broadcast transmitter applications

Table 1. Maximum Ratings

Rating	Symbol	Value	Unit
Drain--Source Voltage	V _{DSS}	+110	Vdc
Gate--Source Voltage	V _{GS}	-10 to +10	Vdc
Operating Voltage	V _{DD}	+55	Vdc
Storage Temperature Range	T _{STG}	-65 to +150	°C
Case Operating Temperature	T _C	+150	°C
Operating Junction Temperature	T _J	+225	°C

Table 2. Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Case T _C = 85°C, T _J = 200°C, DC test	R _{θJC}	1.9	°C/W

Table 3. ESD Protection Characteristics

Test Methodology	Class
Human Body Model (per JESD22--A114)	Class 2

Table 4. Electrical Characteristics (TA = 25 °C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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DC Characteristics

Drain-Source Voltage V _{GS} =0, I _{DS} =100uA	V _{(BR)DSS}		110		V
Zero Gate Voltage Drain Leakage Current (V _{DS} = 90V, V _{GS} = 0 V)	I _{DSS}	—	—	1	μA

Gate-Source Leakage Current ($V_{GS} = 11$ V, $V_{DS} = 0$ V)	I_{GSS}	—	—	1	μ A
Gate Threshold Voltage ($V_{DS} = 50$ V, $I_D = 600$ μ A)	$V_{GS(th)}$	—	2	—	V
Gate Quiescent Voltage ($V_{DD} = 50$ V, $I_D = 110$ mA, Measured in Functional Test)	$V_{GS(Q)}$	—	3.44	—	V

Load Mismatch (In Innogration Test Fixture, 50 ohm system): $V_{DD} = 50$ Vdc, $I_{DQ} = 35$ mA, $f = 1500$ MHz

VSWR 10:1 at 30W pulse CW Output Power	No Device Degradation
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1400MHz application board

Reference Circuit of Test Fixture Assembly Diagram 30mils RO4350B

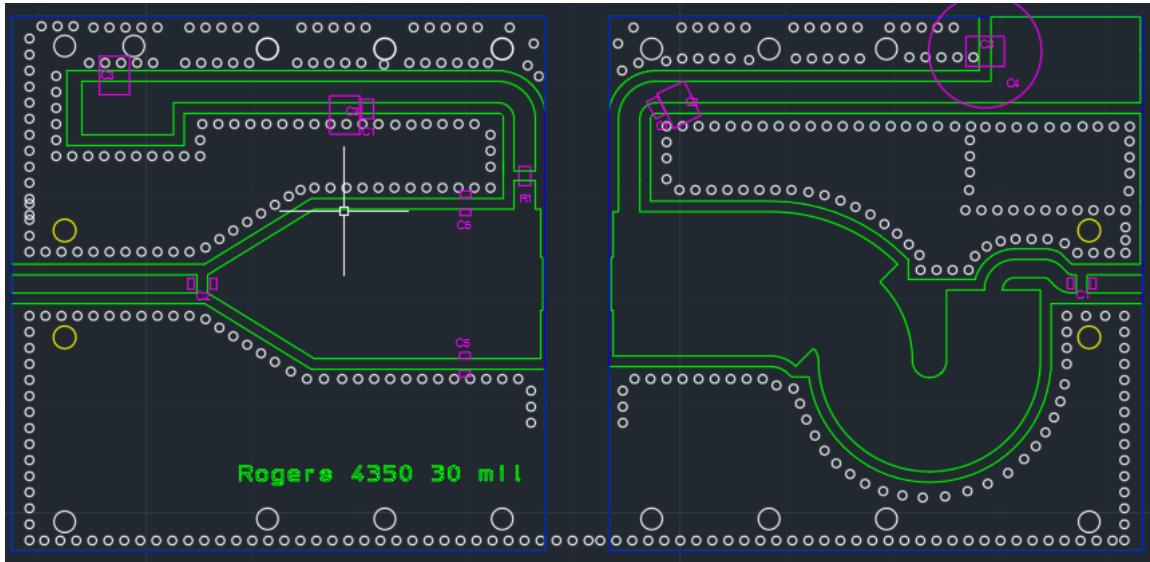


Figure 2. Test Circuit Component Layout

Table 5. Test Circuit Component Designations and Values

Component	Value	Quantity
C1	30pF	3
C2	3.9pF	1
R1	10 ohm	1
C3	10uF	4
C4	470uF	1
C5	3.3pF	2

TYPICAL CHARACTERISTICS

Figure 5. Power Gain and Drain Efficiency as function of Power Output)

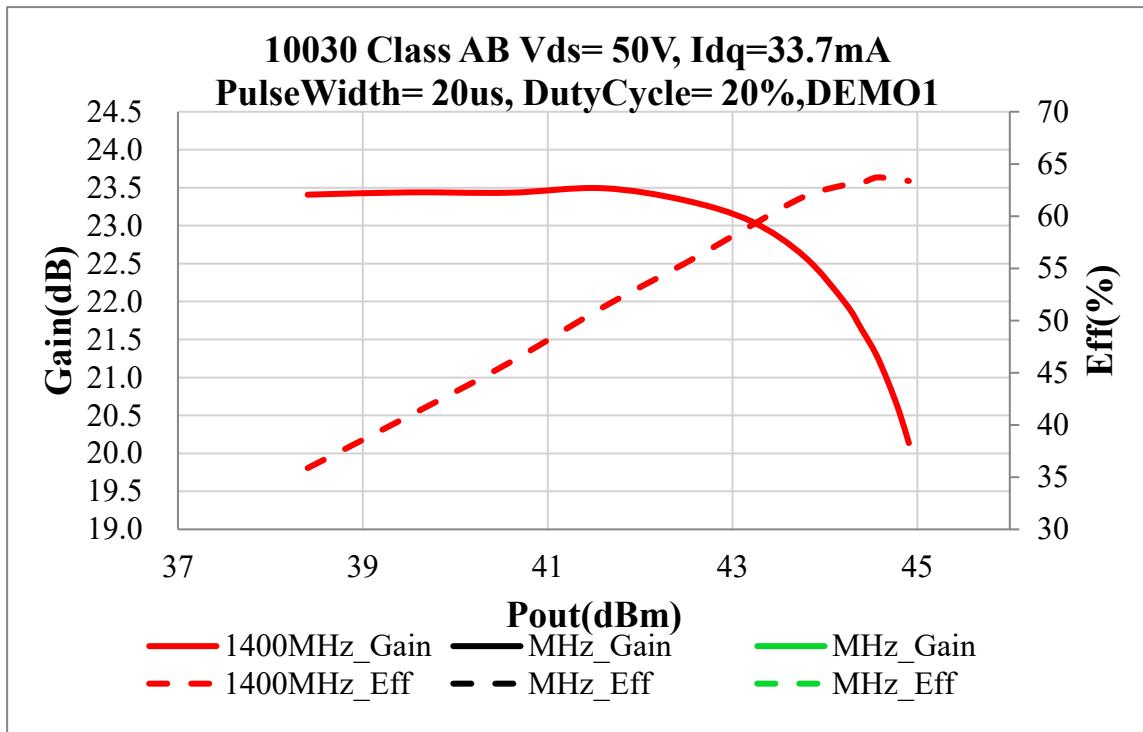
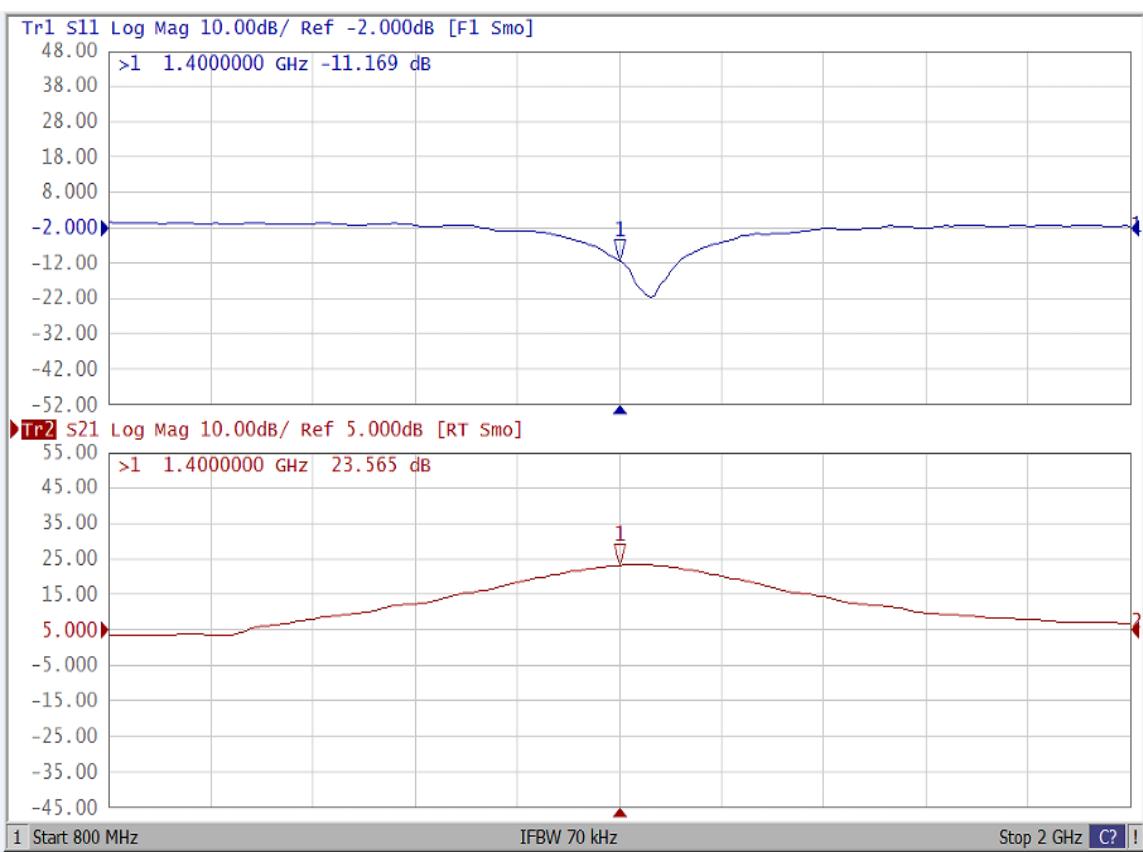
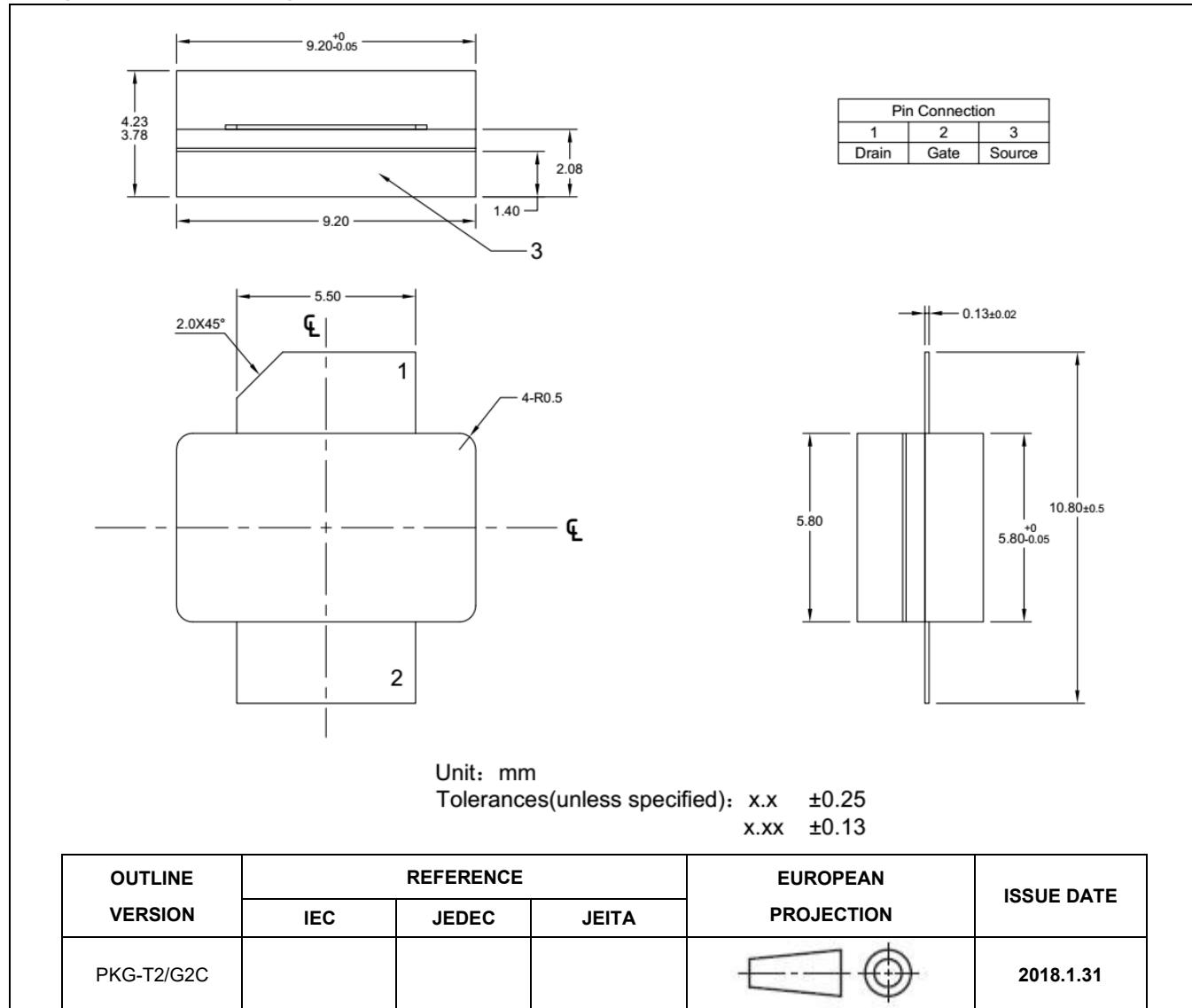


Figure 5. Network analyzer output S11/S21



Package Outline

Flanged ceramic package; 2 leads





Revision history

Table 7. Document revision history

Date	Revision	Datasheet Status
2025/12/29	Rev 1.0	Preliminary Datasheet

Application data based on ZXY-25-18

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