



30W,28V Sub-2GHz RF LDMOS Transistor

Description

The ITEH16030T2C is a 20-watt, high performance, LDMOS transistor, designed for any general applications at frequencies up to 2GHz. **It is based on air cavity plastic package named as T2C with outline highly compatible as TO270 from other suppliers**



$V_{DS} = 28V, I_{DQ} = 100mA, CW$

Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff (%)	P1dB Gain (dB)	P3dB (dBm)	P3dB (W)	P3dB Eff (%)
1400	44.61	28.9	66.4	19.06	45.36	34.3	70.0

Features

- High Efficiency and Linear Gain Operations
- Integrated ESD Protection
- Excellent thermal stability, low HCI 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}	+65	Vdc
Gate--Source Voltage	V_{GS}	-10 to +10	Vdc
Operating Voltage	V_{DD}	+28	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 $T_c = 85^\circ C, DC \text{ test, device soldered on heatsink directly}$	$R_{\theta JC}$	0.8	°C/W

Table 3. ESD Protection Characteristics

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

Table 4. Electrical Characteristics ($T_A = 25^\circ C$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
----------------	--------	-----	-----	-----	------

DC Characteristics

Drain-Source Voltage $V_{GS}=0, I_{DS}=100\mu A$	$V_{(BR)DSS}$		65		V
---	---------------	--	----	--	---



Zero Gate Voltage Drain Leakage Current ($V_{DS} = 28V, V_{GS} = 0V$)	I_{loss}	—	—	1	μA
Gate--Source Leakage Current ($V_{GS} = 11V, V_{DS} = 0V$)	I_{loss}	—	—	1	μA
Gate Threshold Voltage ($V_{DS} = 28V, I_D = 600\mu A$)	$V_{GS(th)}$	—	2	—	V
Gate Quiescent Voltage ($V_{DD} = 28V, I_D = 100mA$, Measured in Functional Test)	$V_{GS(Q)}$	—	2.7	—	V

Load Mismatch (In Innegration Test Fixture, 50 ohm system): $V_{DD} = 28Vdc, I_{DQ} = 100mA, f = 915MHz$

VSWR 10:1 at 30W pulse CW Output Power	No Device Degradation
--	-----------------------

1400MHz application board

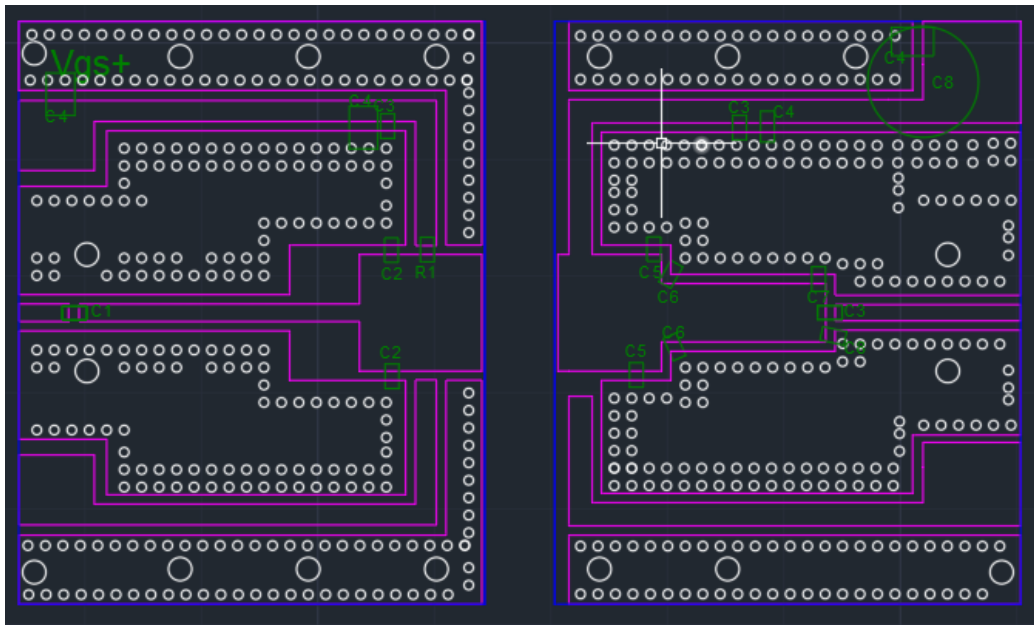


Figure 2. Test Circuit Component Layout, 30mils RO4350B

Table 5. Test Circuit Component Designations and Values

Component	Value	Quantity
C1	3.9pF	1
C2	4.7pF	2
R1	10 ohm	1
C3	30pF	3
C4	10uF	4
C5	2.2pF	2
C6	0.5pF	2
C7	2.7pF	1
C8	470 uF	1
C9	0.2pF	1

TYPICAL CHARACTERISTICS

Figure 3. Power Gain and Drain Efficiency as function of Power Output

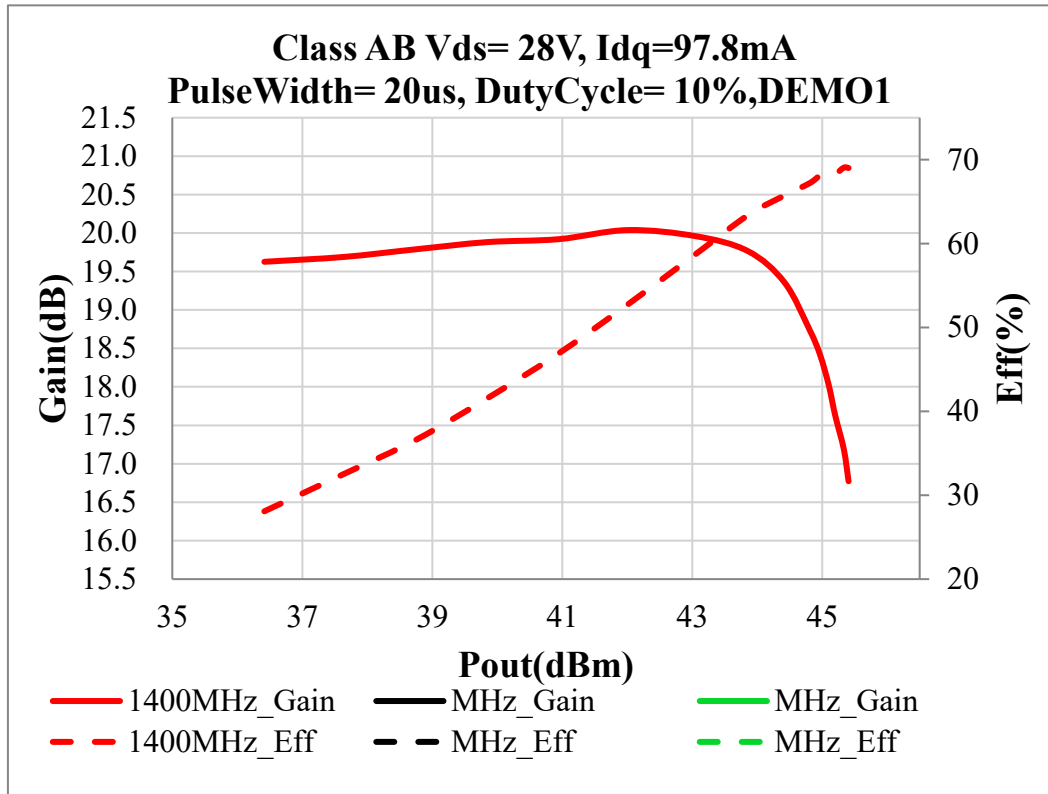
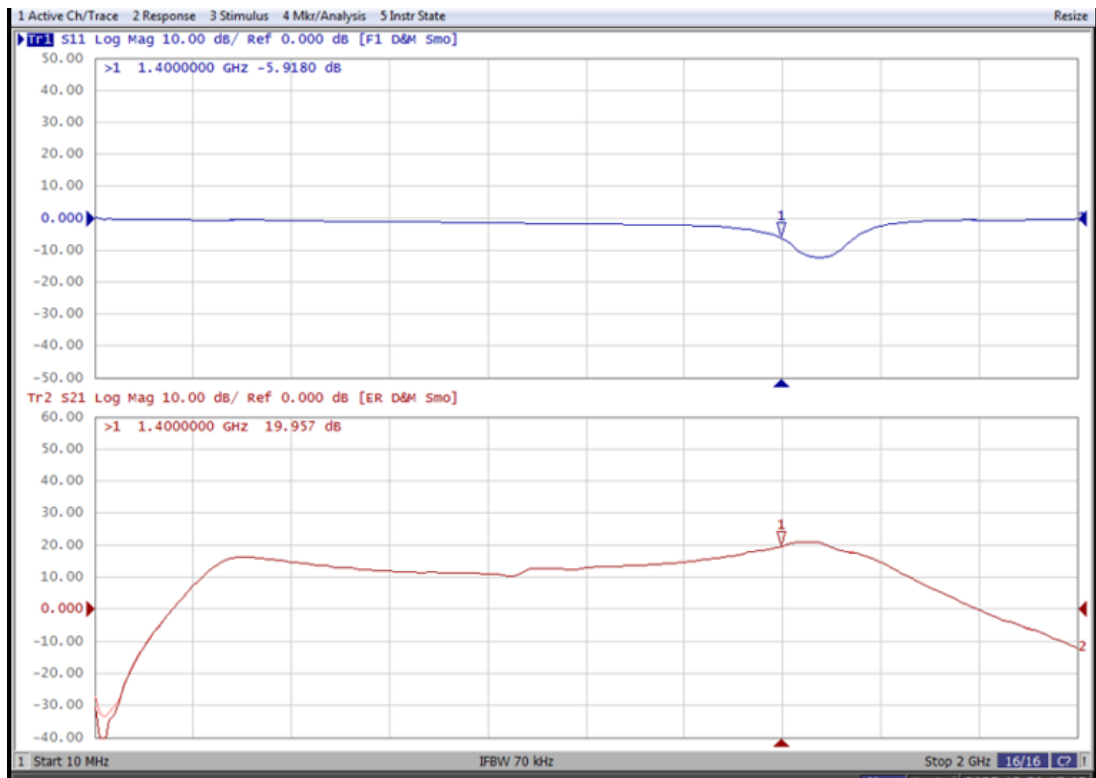


Figure 4. Network analyzer output S11/S21



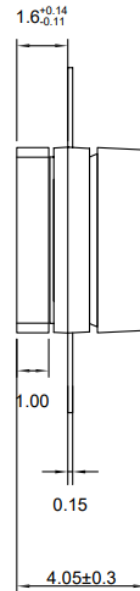
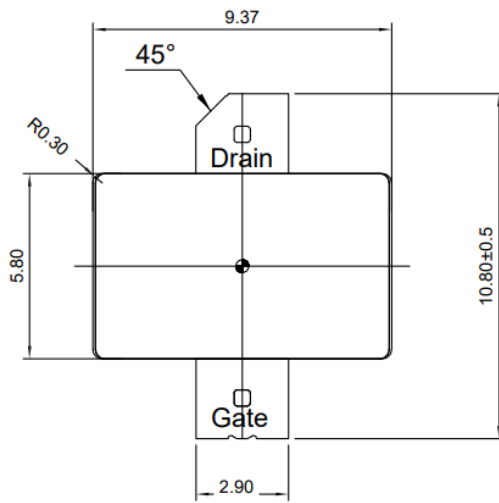
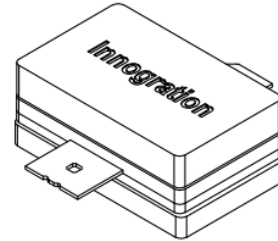
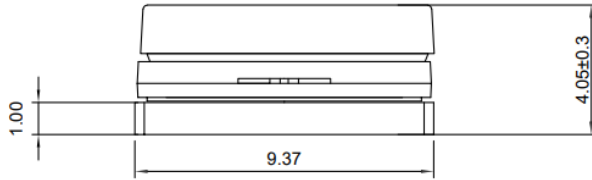


Package Outline

Flanged ceramic package; 2 leads

T2C POD

Rev.01 (2026.01.20)



Unit:mm

Tolerances(unless specified): x.x ±0.1

OUTLINE VERSION	REFERENCE			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA		
PKG-T2C					2018.1.31



Revision history

Table 7. Document revision history

Date	Revision	Datasheet Status
2025/12/30	Rev 1.0	Preliminary Datasheet

Application data based on ZXY-25-20

Disclaimers

Specifications are subject to change without notice. Innogrations believes the information contained within this data sheet to be accurate and reliable. However, no responsibility is assumed by Innogrations for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Innogrations . Innogrations makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose. "Typical" parameters are the average values expected by Innogrations in large quantities and are provided for information purposes only. These values can and do vary in different applications and actual performance can vary over time. All operating parameters should be validated by customer's technical experts for each application. Innogrations products are not designed, intended or authorized for use as components in applications intended for surgical implant into the body or to support or sustain life, in applications in which the failure of the Innogrations product could result in personal injury or death or in applications for planning, construction, maintenance or direct operation of a nuclear facility. For any concerns or questions related to terms or conditions, pls check with Innogrations and authorized distributors

Copyright © by Innogrations (Suzhou) Co.,Ltd.