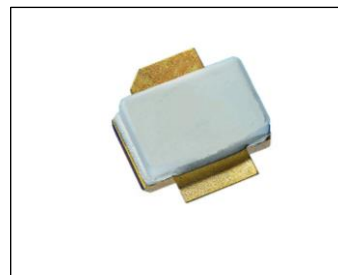




20W,28V Sub-2.7GHz RF LDMOS Transistor

Description

The ITCH20020T2 is a 20-watt, high performance, LDMOS transistor, designed for any general applications at frequencies up to 2.7GHz. **It is based on air cavity plastic package named as T2 with outline highly compatible as TO270 from other suppliers**



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
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Table 1. Maximum Ratings

Rating	Symbol	Value	Unit
Drain--Source Voltage	V_{DS}	+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 $T_c = 85^\circ\text{C}$, DC test, device soldered on heatsink directly	$R_{\theta JC}$	0.9	°C/W

Table 3. ESD Protection Characteristics

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

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

Characteristic	Symbol	Min	Typ	Max	Unit
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DC Characteristics

Drain-Source Voltage $V_{GS}=0$, $I_{DS}=100\mu\text{A}$	$V_{(BR)DS}$		65		V
Zero Gate Voltage Drain Leakage Current ($V_{DS} = 28\text{V}$, $V_{GS} = 0\text{V}$)	I_{DSS}	—	—	1	μA
Gate--Source Leakage Current ($V_{GS} = 11\text{V}$, $V_{DS} = 0\text{V}$)	I_{GSS}	—	—	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)	$V_{GS(Q)}$	—	2.4	—	V

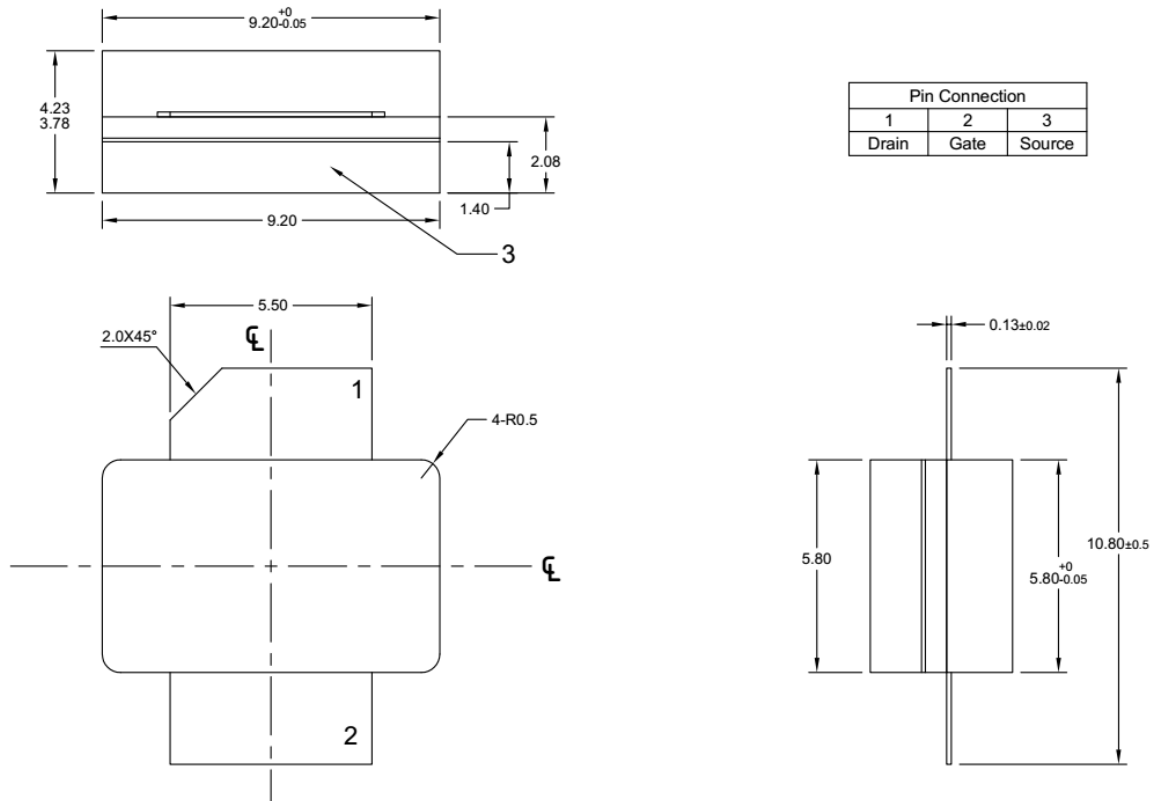
Load Mismatch (In Innogrations Test Fixture, 50 ohm system): $V_{DD} = 28Vdc$, $I_{DQ} = 100 mA$, $f = 915 MHz$

VSWR 10:1 at 80W pulse CW Output Power	No Device Degradation
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Package Outline

Flanged ceramic package; 2 leads



Unit: mm

Tolerances(unless specified): x.x ±0.25
x.xx ±0.13

OUTLINE VERSION	REFERENCE			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA		
PKG-T2/G2C					2018.1.31



Revision history

Table 7. Document revision history

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

Application data based on

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