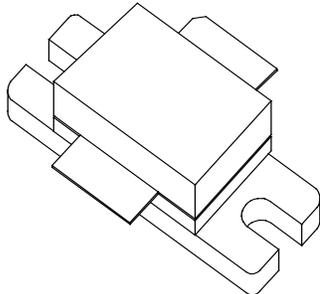




ITC1100

1000 WATT, 50V, Pulsed Avionics 1030 MHz

<p>GENERAL DESCRIPTION</p> <p>The ITC1100 is a common base bipolar transistor. It is designed for pulsed interrogator systems in the frequency band of 1030 MHz. The device has gold thin-film metallization for proven high MTF. The transistor includes input returns for improved output rise time. Low thermal resistance package reduces junction temperature which extends the life time of the product.</p>	<p>CASE OUTLINE 55SW, Style 1 Common Base</p> 
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Power Dissipation</p> <p>Device Dissipation¹ @25°C (P_d) 3400 W Thermal Resistance¹ (θ_{JC}) .08°C/W</p> <p>Voltage and Current</p> <p>Collector-Base Voltage 65V Emitter-Base Voltage 3.5V Collector Current¹ 80A</p> <p>Temperatures</p> <p>Storage Temperature -40 to +150°C Operating Junction Temperature¹ +200°C</p>	

ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
BV _{ebo} ²	Emitter-Base Breakdown(open)	I _e =50mA	3.5			V
BV _{ces}	Collector-Emitter Breakdown(shorted)	I _c =30mA	65			V
BV _{ceo} ²	Collector-Emitter Breakdown (open)	I _c =30mA	30			V
h _{FE} ²	DC Current Gain	I _c =5A, V _{ce} =5V	20		100	β

FUNCTIONAL CHARACTERISTICS @ 25°C

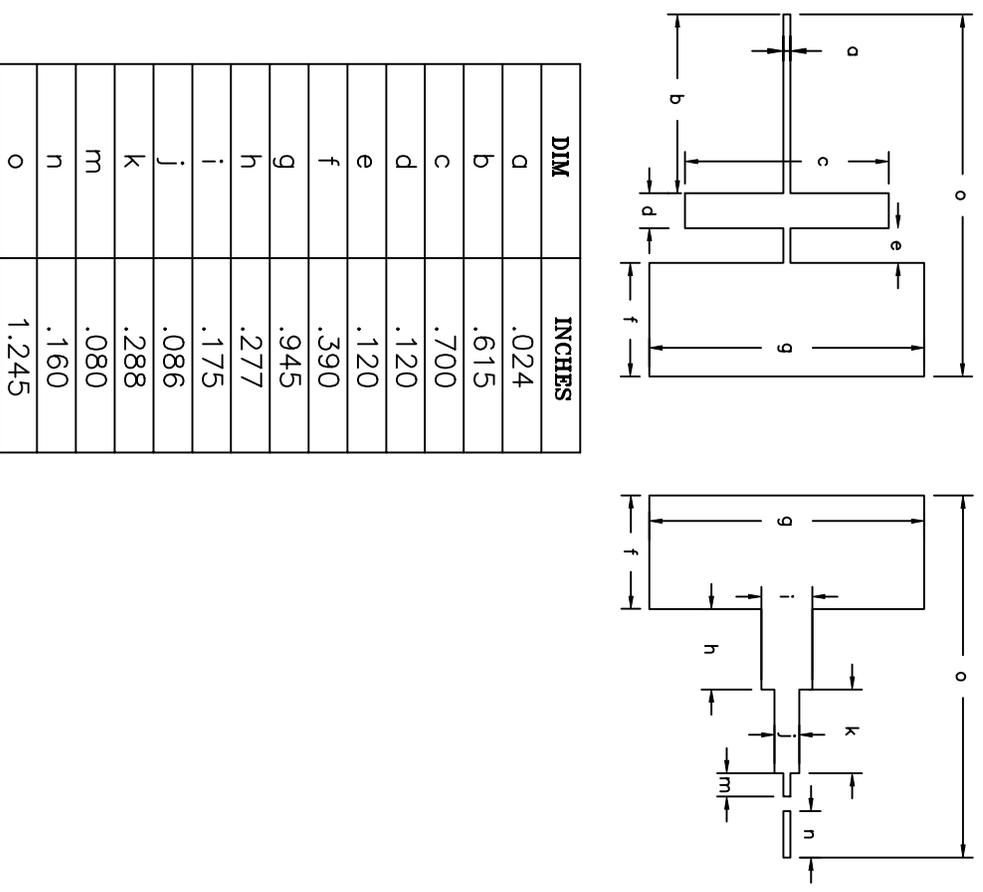
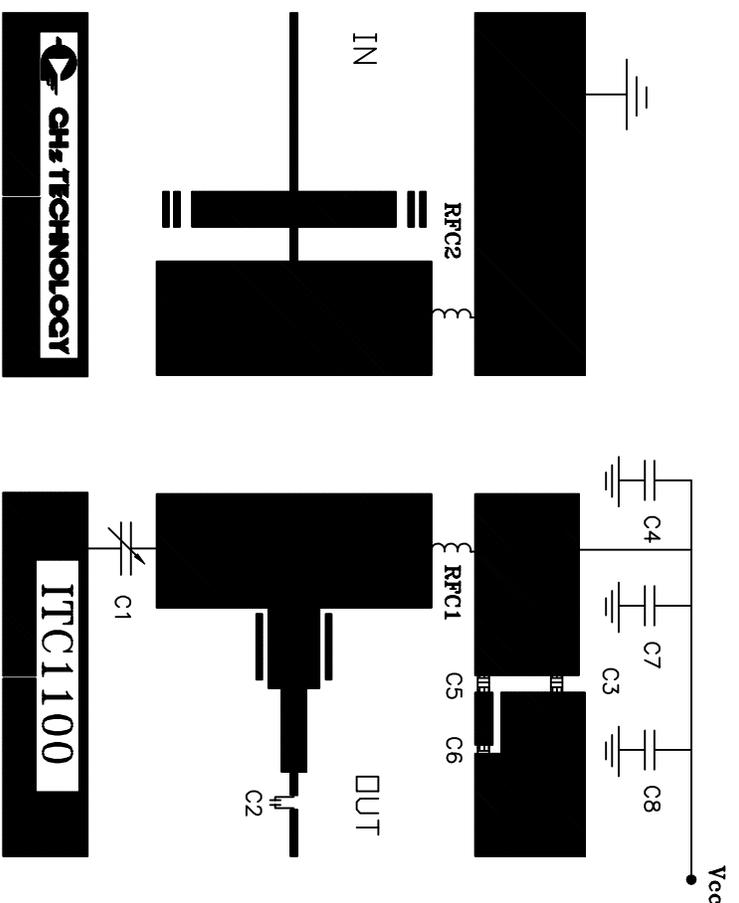
G _{PB}	Common Base Power Gain	V _{cc} = 50V, F = 1030MHz, P _{out} =1000W Peak Min, PW=1μS, DF=1%	10	10.5		dB
η _c	Collector Efficiency	V _{cc} = 50V, F = 1030MHz, P _{out} =1000W Peak Min, PW=1μS, DF=1%	45	50		%
t _r	Rise Time	V _{cc} = 50V, F = 1030MHz, P _{out} =1000W Peak Min, PW=1μS, DF=1%		50	80	nS
VSWR	Output Load Mismatch	V _{cc} = 50V, F = 1030MHz, P _{out} =1000W Peak Min, PW=1μS, DF=1%			4:1	Ψ
Z _{in}	Series Input Impedance (Circuit source impedance @ test cond.)	V _{cc} = 50V, F = 1030MHz, P _{out} =1000W Peak Min, PW=1μS, DF=1%	0.89 – j2.3			Ω
Z _{out}	Series Output Impedance (Circuit load impedance @ test cond.)	V _{cc} = 50V, F = 1030MHz, P _{out} =1000W Peak Min, PW=1μS, DF=1%	0.54 - j2.64			Ω

¹ At rated output power and pulse conditions

² Not measurable due to EB Returns

NOTES, UNLESS OTHERWISE SPECIFIED:

- ONLY THE ITEM DESCRIBED ON THIS DRAWING WHEN PROCURED FROM THE "APPROVED SUPPLIER LIST", IS APPROVED FOR USE IN THE APPLICATION SPECIFIED HEREON. A SUBSTITUTE ITEM SHALL NOT BE USED WITHOUT PRIOR TESTING AND APPROVAL BY GHZ.



REVISIONS		
LTR	DESCRIPTION	DATE

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3000 OAKMEAD VILLAGE DRIVE
SANTA CLARA, CA 95051-0808

ITC1100

TOLERANCES UNLESS OTHERWISE SPECIFIED	
DIMENSIONS	±.01
ANGLES	±.005
PLACES	±.001
APPROVALS SIGNATURES	DATE
ORIGINATOR	
CHECKED	
APPROVED	
PRODUCT ENG.	
MANUFACTURING	
QA	
MARKETING	
SALES	

MATERIAL	
DurodId	Er = 10.2
	H = 25 mils
	T = 1.0 Oz
NEXT ASST	USED ON
APPLICATION	

APPROVALS SIGNATURES			
ORIGINATOR		DATE	
CHECKED			
APPROVED			
PRODUCT ENG.			
MANUFACTURING			
QA			
MARKETING			
SALES			

GHZ TECHNOLOGY			
SIZE	CAGE CODE	DOC/PART NO.	REV
A	OPJR2	ITC1100	1
SCALE:	N/A	FILE:	ITC1100
		SHEET:	6 OF 6

- RFC1 = 3T, 0.11" DIA, 16 AWG WIRE
- RFC2 = .075"HAIR PIN, 0.2" HEIGHT, 16 AWG WIRE
- C1 = 0- 3.5 pf JOHANSON TRIMMING CAPACITOR
- C2, C3 = 68 pf ATC
- C4 = 1.0 uf, 50 V
- C5, C6 = 4.7 uf, 50 V
- C7,C8 = 1000 uf, 63 V ELECTROLYTIC CAPACITOR
- Vcc = 50 V

A B C D