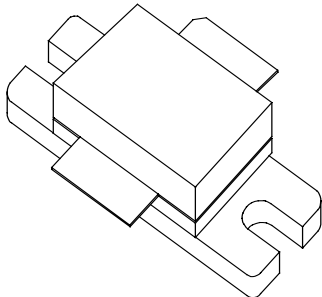


ITC1100

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 _c =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

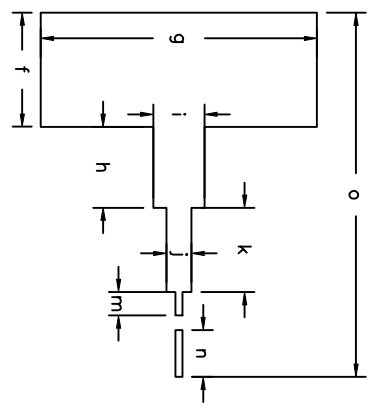
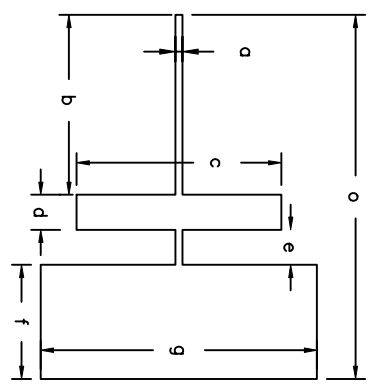
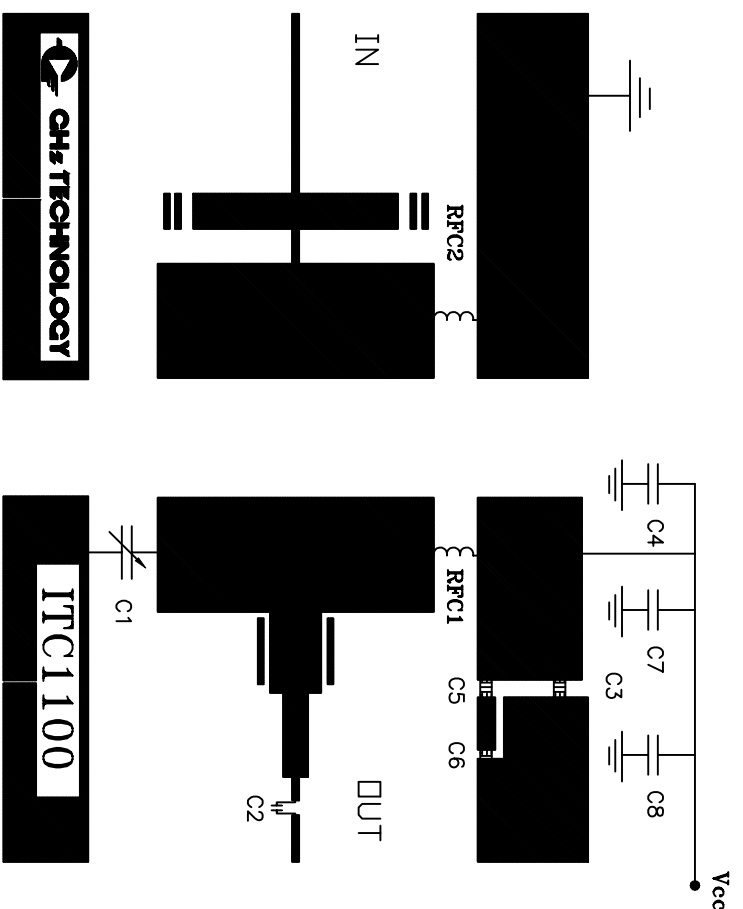
G _{PB}	Common Base Power Gain	V _{cc} = 50V, F = 1030MHz, P _{out} =1000W Peak Min, PW=1μS, DF=1%	10	10.5		dB
η _c	Collector Efficiency	V _{cc} = 50V, F = 1030MHz, P _{out} =1000W Peak Min, PW=1μS, DF=1%	45	50		%
t _r	Rise Time	V _{cc} = 50V, F = 1030MHz, P _{out} =1000W Peak Min, PW=1μS, DF=1%		50	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.



DIM	INCHES
a	.024
b	.615
c	.700
d	.120
e	.120
f	.390
g	.945
h	.277
i	.175
j	.086
k	.288
m	.080
n	.160
o	1.245

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

TOLERANCES
 UNLESS OTHERWISE SPECIFIED
 DIMS ±.01
 .XXX ±.005
 ANGLES ±5°

MATERIAL:
 Durodild
 Er = 10.2
 H = 25 mils
 T = 1.0 Oz

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GHZ TECHNOLOGY
 3000 OAKMEAD VILLAGE DRIVE
 SANTA CLARA, CA 95051-0808

APPROVALS SIGNATURES	DATE	SIZE	CAGE CODE	DOC/PART NO.	REV
ORIGINATOR		A	OPJR2	ITC1100	1
CHECKED					
APPROVED					
PRODUCT ENG.					
MANUFACTURING					
QA					
MARKETING					
SALES					

NEXT ASST
 APPLICATION USED ON

SCALE: N/A FILE: ITC1100 SHEET: 6 OF 6