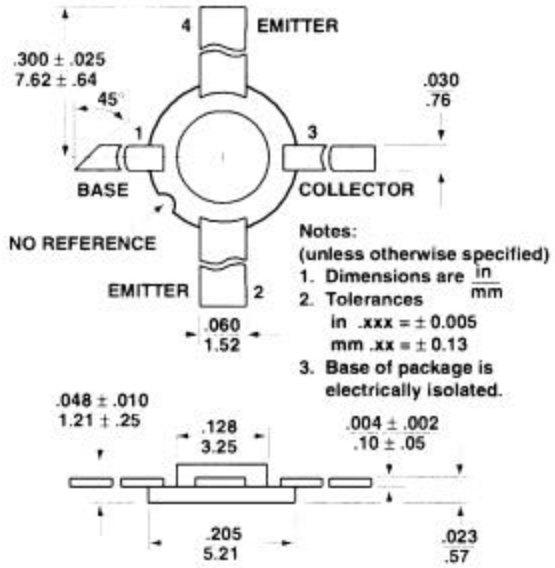
TELEDYNE
MICROWAVE SOLUTIONS
Everywhereyoulook™

PHT-64020B

Up to 6 GHz Linear Power Silicon Bipolar Transistor

200 mil BeO Package Dimensions



Description

The PHT-64020B is a high performance NPN bipolar transistor. The PHT-64020B is housed in a hermetic 200 mil BeO disk package. It is designed for use in medium power, wide band amplifier and oscillator applications.

TMS is not the original device manufacturer. TMS procures commercial off the shelf product and UpScreens per the following process flow. For custom screening requirements, Quality Conformance Inspection, or additional electrical selection, please contact TMS.

Technical Data

PHT-64020B Suggested Maximum Ratings

Parameter	Suggested Maximum [1]
Emitter-Base Voltage	2.0V
Collector-Base Voltage	40V
Collector-Emitter Voltage	20V
Collector Current	200mA
Junction Temperature	+200°C
Storage Temperature	-65 to +200°C

NOTE:
1. Permanent damage may occur if any of these limits are exceeded

Electrical Specifications [1]			-55°C		+25°C		+150°C	
Symbol	**Parameters and Test Conditions**	**Units**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
P_{1dB}	Power Output @ 1 dB Gain Compression VCE = 16V, I_c = 110 mA, f = 2.0 GHz	dBm			26.0			
G_{1dB}	1 dB Compression Gain VCE = 16V, I_c = 110 mA, f = 2.0 GHz	dB			8.5			
h_{FE} I_{CBO} I_{EBO}	Forward Current Transfer Ratio; V_{CE} = 8 V, I_C = 110mA Collector Cutoff Current; V_{CE} = 16 Emitter Cutoff Current; V_{EB} = 1 V	-- µA µA	15		20	200 100 5.0		1000

NOTE:

1. η_T = (RF Output Power) / (RF Input Power + $V_{CE}I_{C)}$.

TMS UpScreen

Table 1A 100% Screening

Screening Test/Operation	MIL-STD-750 Method	Conditions
Temperature Cycling	1051	Condition C, Ta = -55°C to 175°C 20 cycles minimum
Constant Acceleration	2006	20,000G, Y1 axis only, 1 min. hold does not apply
High Temp. Reverse Bias (HTRB)	1039	Condition A, t= 48 hrs., Ta = +150 °C VCB= 80% of rated BVCBO
Interim Electrical Tests	------	+25°C; hFE, ICBO IEBO
Power Burn-in	1039	Condition B, t= 160 hrs., Ta = +25°C, Tj = +150°C
Final Electrical Test Group A, Subgroup 2	------	+25°C; hFE, ICBO IEBO
Delta Limits	------	ΔhFE = ±25% ΔICBO = ±50 nA or ±100%, whichever is greater
Percent Defective Allowable (PDA)	------	10% maximum applies to Final Electrical and Deltas
Hermeticity - Fine Leak - Gross Leak	1071 1071	Condition H1 Condition C or K
External Visual	2071	
Group A Inspection Subgroup1, Sample 22/0 Subgroup 3, Sample = 116/0 Subgroup 4, Sample = 116/0 Subgroup 5, 6 & 7 are not applicable	------	 Subgroup 1, Visual Mechanical Subgroup 3, hFE @ -55°C, ICBO @ +150°C Subgroup 4, P_{1dB} & G_{1dB} @ +25°C
Marking - Dot units near pin 1		(blue) unless directed otherwise
Shipment Packaging		10 per strip

Marking: Manufacturer's marking (if applicable) will remain on devices. TMS individual packaging will be labeled with TMS Part Number and manufacturer date code. TMS shipment date code will appear on outer label and C of C. Certificate of Conformance (C of C) will be sent with each shipment. This document provides objective evidence of TMS testing and documents traceability to manufacturers wafer/lot identification.