Maintenance type - not for new designs

MICROWAVE LINEAR POWER TRANSISTOR

NPN silicon transistor for use in common-emitter class-A linear amplifiers up to 4 GHz.

Diffused emitter ballasting resistors, self-aligned process entirely ion implanted and gold sandwich metallization ensure an optimum temperature profile with excellent performance and reliability.

QUICK REFERENCE DATA

RF performance up to T_{mb} = 25 °C in an unneutralized common-emitter class-A circuit

mode of operation	f GHz	V_{CE} V	I_C mA	P_{L1} mW	G_{p0} dB
c.w.; linear amplifier	4	18	30	typ. 200	typ. 8

MECHANICAL DATA

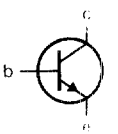
Dimensions in mm

Fig. 1 FO-41B.

Emitter and metallic cap connected to the seating plane.

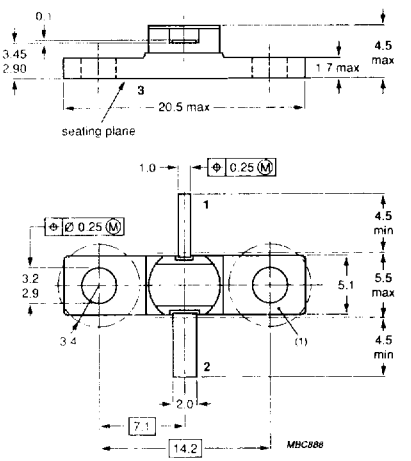
Pinning:

1 = collector
2 = base
3 = emitter



Torque on screw: max. 0,5 Nm
Recommended screw: M2,5

Marking code: 4002S = LTE4002S



(1) Flatness of this area ensures full thermal contact with bolt head.

WARNING

Product and environmental safety – toxic materials

This product contains beryllium oxide. The product is entirely safe provided that the BeO slab is not damaged. All persons who handle, use or dispose of this product should be aware of its nature and of the necessary safety precautions.

After use, dispose of as chemical or special waste according to the regulations applying at the location of the user. It must never be thrown out with general industrial or domestic waste.

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Collector-base voltage (open emitter)	V_{CBO}	max.	40 V
Collector-emitter voltage			
open base	V_{CEO}	max.	16 V
R_{BE} = 220 Ω	V_{CER}	max.	35 V
Emitter-base voltage (open collector)	V_{EBO}	max.	3 V
Collector current (DC)	I_C	max.	90 mA
Total power dissipation up to T_{mb} = 75 °C	P_{tot}	max.	1 W
Storage temperature range	T_{stg}	−65 to +200	°C
Junction temperature	T_j	max.	200 °C
Lead soldering temperature			
at 0.3 mm from the case; $t_{sld} \leqslant 10$ s	T_{sld}	max.	235 °C

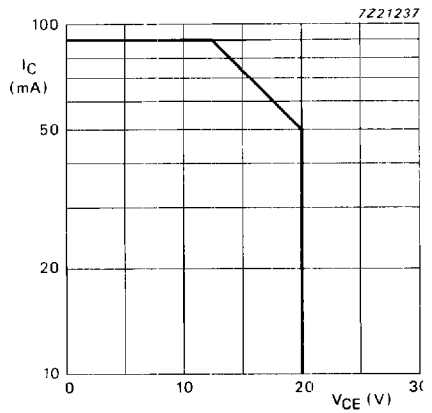


Fig. 2 DC SOAR at $T_{mb} \leqslant 75$ °C; $R_{BE} < 220$ Ω.

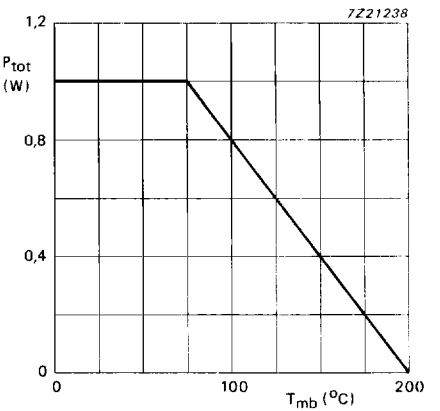


Fig. 3 Power derating curve.

THERMAL RESISTANCE (at Tj=75 °C)

From junction to mounting base	$R_{th\ j\text{-}mb}$	=	45 K/W

CHARACTERISTICS

T_{mb} = 25 °C; unless otherwise specified

Collector cut-off currents			
I_E = 0; V_{CB} = 20 V	I_{CBO}	<	100 nA
I_E = 0; V_{CB} = 40 V	I_{CBO}	<	150 μA
V_{BC} = 35 V; R_{BE} = 200 Ω	I_{CER}	<	500 μA
Emitter cut-off currents			
I_C = 0; V_{EB} = 1,5 V	I_{EBO}	<	50 nA
DC current gain			
I_C = 30 mA; V_{CE} = 5 V	h_{FE}		15 to 150