HG Semiconductors

HG RF POWER TRANSISTOR

2SC3101

ROHS Compliance,Silicon NPN POWER TRANSISTOR

DESCRIPTION

2SC3101 is a silicon NPN epitaxial planar type transistor specifically designed for UHF power amplifiers applications.

FEATURES

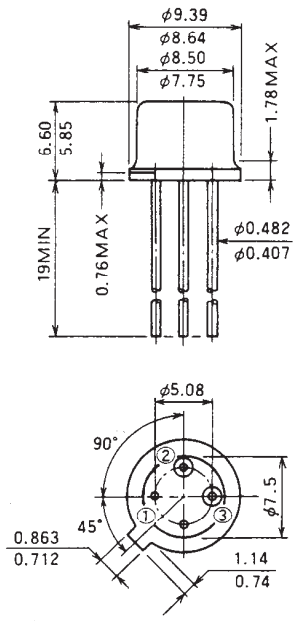
- High power gain: $G_{pe} \geqq 5.7dB$
  @V_{CC} = 12.5V, f = 520MHz, P_{in} = 0.8W
- Emitter ballasted construction
- High ruggedness: Ability to withstand more than 20:1 load VSWR when operated at @V_{CC} = 15.2V, f = 520MHz, P_O = 3W.

APPLICATION

For drive stage and output stage of power amplifiers in UHF band.

OUTLINE DRAWING

Dimensions in mm



PIN :
① EMITTER (CASE)
② BASE
③ COLLECTOR

T-8E

ABSOLUTE MAXIMUM RATINGS (T_C = 25°C unless otherwise specified)

Symbol	Parameter	Conditions	Ratings	Unit
V_{CEO}	Collector to base voltage		35	V
V_{EBO}	Emitter to base voltage		4	V
V_{CEO}	Collector to emitter voltage	$R_{BE} = \infty$	17	V
I_C	Collector current		1	A
P_C	Collector dissipation	T_C = 25°C	10	W
T_j	Junction temperature		175	°C
T_{stg}	Storage temperature		−55 to 175	°C

Note. Above parameters are guaranteed independently.

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise specified)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)EBO}$	Emitter to base breakdown voltage	I_E = 1mA, I_C = 0	4			V
$V_{(BR)CBO}$	Collector to base breakdown voltage	I_C = 10mA, I_E = 0	35			V
$V_{(BR)CEO}$	Collector to emitter breakdown voltage	I_C = 10mA, $R_{BE} = \infty$	17			V
I_{CBO}	Collector cutoff current	V_{CB} = 15V, I_E = 0			300	μA
I_{EBO}	Emitter cutoff current	V_{EB} = 2V, I_C = 0			300	μA
h_{FE}	DC forward current gain *	V_{CB} = 10V, I_C = 0.1A	10	50	180	—
P_O	Output power	V_{CC} = 12.5V, P_{in} = 0.8W, f = 520MHz.	3	3.5		W
η_C	Collector efficiency		50	60		%

Note : Above parameters , ratings , limits and conditions are subject to change.