HG Semiconductors

HG RF POWER TRANSISTOR

2SC3018

ROHS Compliance,Silicon NPN POWER TRANSISTOR

DESCRIPTION

2SC3018 is a silicon NPN epitaxial planar type transistor designed for 7.2Volts VHF power amplifiers applications.

FEATURES

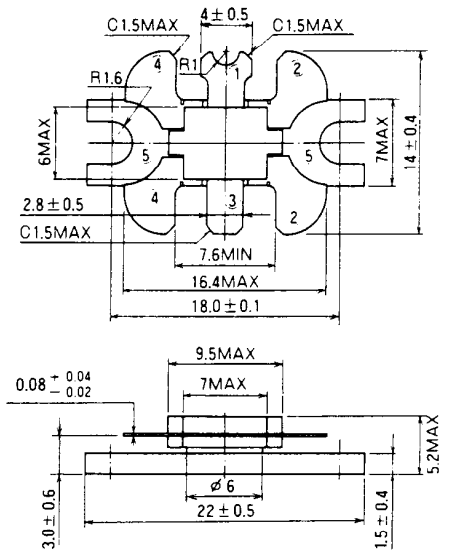
- High gain: $G_{pe} \geqq 13$dB @f = 175MHz, $V_{CC} = 7.2$V $P_{in} = 0.15$W.
- Convenient ceramic type package with flange for high gain and excellent heat dissipation.
- Emitter ballasted construction.
- High ruggedness: Ability to withstand more than 20:1 load VSWR when operated at $V_{CC} = 9$V, $P_O = 3$W.

APPLICATION

Output stage of 2W portable type transmitter in VHF band.

OUTLINE DRAWING

Dimensions in mm



PIN :
① COLLECTOR
② EMITTER (FLANGE)
③ BASE
④ EMITTER (FLANGE)
⑤ FIN (EMITTER)

T-31E

ABSOLUTE MAXIMUM RATINGS ($T_C = 25°C$)

Symbol	Parameter	Conditions	Ratings	Unit
V_{CBO}	Collector to base voltage		20	V
V_{EBO}	Emitter to base voltage		3.5	V
V_{CEO}	Collector to emitter voltage	$R_{BE} = \infty$	9	V
I_C	Collector current		1.5	A
P_C	Collector dissipation	$T_C = 25°C$	10	W
T_j	Junction temperature		175	°C
Tstg	Storage temperature		−55 to 175	°C

Note. Above parameters are guaranteed independently.

ELECTRICAL CHARACTERISTICS ($T_C = 25°C$)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)EBO}$	Emitter to base breakdown voltage	$I_E = 1$mA, $I_C = 0$	3.5			V
$V_{(BR)CBO}$	Collector to base breakdown voltage	$I_C = 10$mA, $I_E = 0$	20			V
$V_{(BR)CEO}$	Collector to emitter breakdown voltage	$I_C = 10$mA, $R_{BE} = \infty$	9			V
I_{CBO}	Collector cut off current	$V_{CB} = 10$V, $I_E = 0$			300	μA
I_{EBO}	Emitter cut off current	$V_{EB} = 2$V, $I_C = 0$			300	μA
h_{FE}	DC forward current gain *	$V_{CE} = 5$V, $I_C = 0.1$A	20	50	180	—
P_O	Power Output	$V_{CC} = 7.2$V, $P_{in} = 0.15$W, $f = 175$MHz	3.0	3.5		W
η_C	Collector efficiency		55	60		%

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