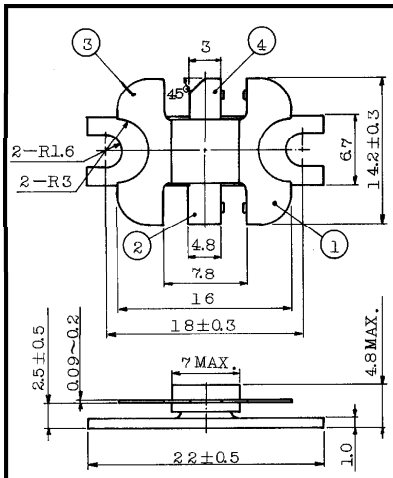
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC3006

UHF BAND POWER AMPLIFIER APPLICATIONS

- Output Power : Po = 3W (Min.)
  (f = 470MHz, V_{CC} = 12.6V, Pi = 0.4W)

Unit in mm



1. EMITTER
2. BASE
3. EMITTER
4. COLLECTOR

JEDEC	—
EIAJ	—
TOSHIBA	2-7A1A

Weight : 1.9g

MAXIMUM RATINGS (Tc = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	35	V
Collector-Emitter Voltage	V_{CEO}	17	V
Emitter-Base Voltage	V_{EBO}	3.5	V
Collector Current	I_C	1	A
Collector Power Dissipation	P_C	10	W
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_{stg}	−65~175	°C

ELECTRICAL CHARACTERISTICS (Tc = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB} = 15V, I_E = 0	—	—	1	mA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 2mA, I_E = 0	35	—	—	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 5mA, I_B = 0	17	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 0.2mA, I_C = 0	3.5	—	—	V
DC Current Gain	h_{FE}	V_{CE} = 5V, I_C = 0.5A *	10	—	—	—
Collector Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	—	10	—	pF
Output Power	Po	V_{CC} = 12.6V, f = 470MHz, Pi = 0.4W (Fig.)	3	—	—	W
Power Gain	G_p		8.8	—	—	dB
Collector Efficiency	η_C		50	—	—	%

* Pulse Test : Pulse Width ≦ 100μs, Duty Cycle ≦ 3%

CAUTION

Beryllia Ceramics is used in this product. The dust or vapor can be dangerous to humans. Do not break, cut, crush or dissolve chemically. Dispose of this product properly according to law. Do not intermingle with normal industrial or domestic waste.

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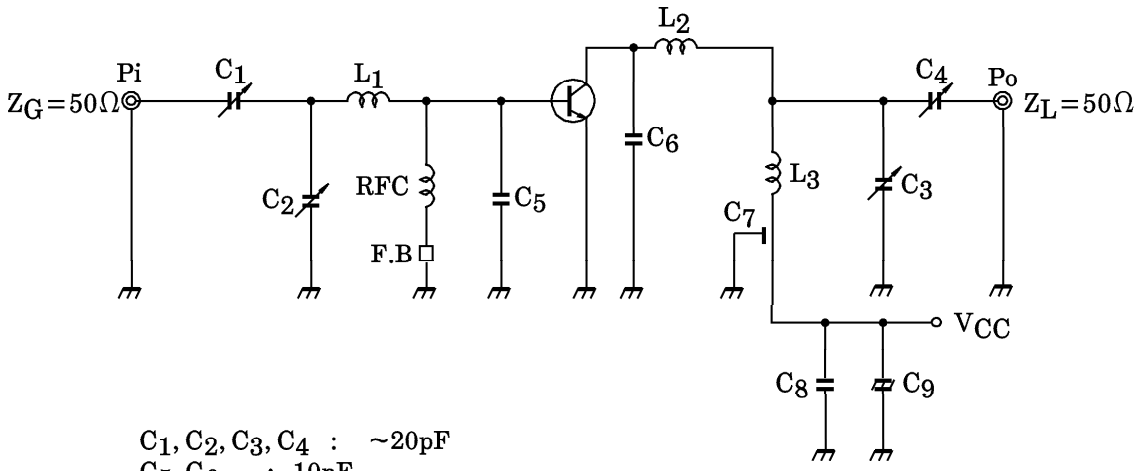
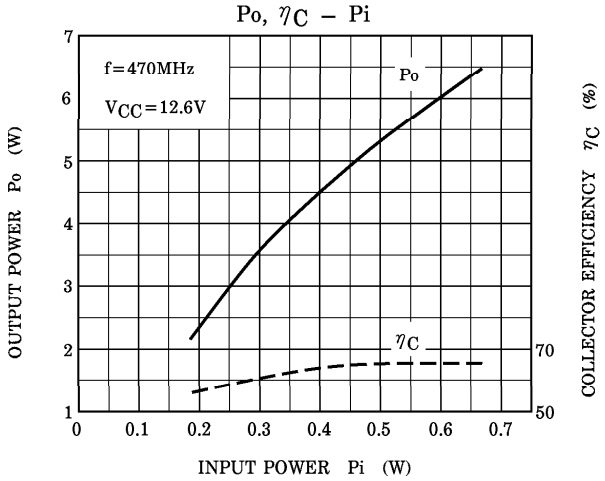
Fig. Po TEST CIRCUIT



C_1, C_2, C_3, C_4	:	~20pF
C_5, C_6	:	10pF
C_7	:	0.01μF
C_8	:	0.02μF
C_9	:	10μF
L_1, L_2	:	5×20×0.1mm COPPER PLATE
L_3	:	ϕ1 SILVER PLATED COPPER WIRE, 10ID, 2T
RFC	:	ϕ0.5 ENAMEL COATED COPPER WIRE, 7ID, 10T
F. B	:	FERRITE BEADS



CAUTION

These are only typical curves and devices are not necessarily guaranteed at these curves.