

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC2510

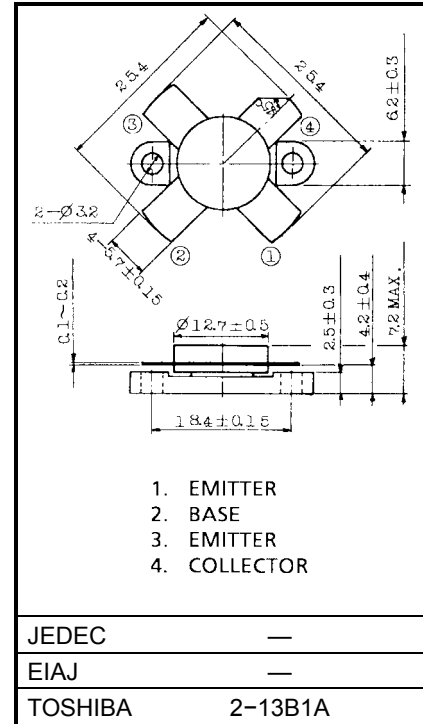
2~30MHz SSB LINEAR POWER AMPLIFIER APPLICATIONS
(28V SUPPLY VOLTAGE USE)

Unit in mm

- Specified 28V, 28MHz Characteristics
- Output Power : $P_o = 150W_{PEP}$ (Min.)
- Power Gain : $G_p = 12.2dB$ (Min.)
- Collector Efficiency : $\eta_C = 35\%$ (Min.)
- Intermodulation Distortion: $IMD = -30dB$ (Max.)

MAXIMUM RATINGS ($T_c = 25^\circ C$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CES}	60	V
Collector-Emitter Voltage	V_{CEO}	35	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	20	A
Collector Power Dissipation	P_C	250	W
Junction Temperature	T_j	175	$^\circ C$
Storage Temperature Range	T_{stg}	-65~175	$^\circ C$



Weight: 5.2g

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ELECTRICAL CHARACTERISTICS (T_c = 25°C)

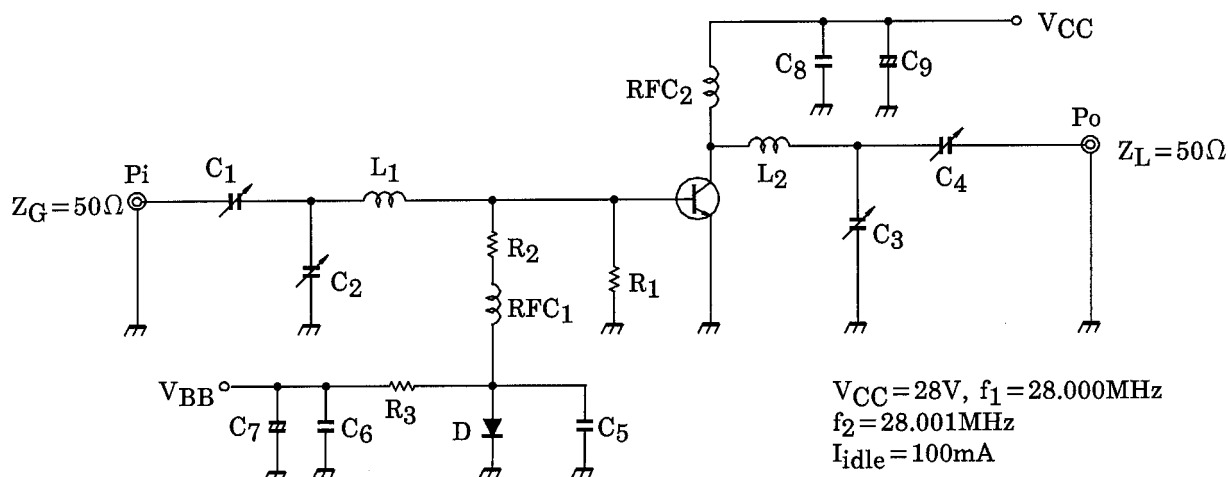
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Breakdown Voltage	V _(BR) CEO	I _C = 100mA, I _B = 0	35	—	—	V
Collector-Emitter Breakdown Voltage	V _(BR) CES	I _C = 100mA, V _{EB} = 0	55	—	—	V
Emitter-Base Breakdown Voltage	V _(BR) EBO	I _E = 1mA, I _C = 0	4	—	—	V
DC Current Gain	h _{FE}	V _{CE} = 5V, I _C = 10A *	10	—	—	
Collector Output Capacitance	C _{ob}	V _{CB} = 28V, I _E = 0 f = 1MHz	—	450	600	pF
Power Gain	G _p	V _{CC} = 28V, f ₁ = 28.000MHz, f ₂ = 28.001MHz I _{idle} = 100mA P _o = 150W _{PEP} (Fig.)	12.2	13.3	—	dB
Input Power	P _i		—	7	9	W _{PEP}
Collector Efficiency	η _C		35	—	—	%
Intermodulation Distortion	IMD		—	—	-30	dB
Series Equivalent Input Impedance	Z _{in}	V _{CC} = 28V, f ₁ = 28.000MHz, f ₂ = 28.001MHz, P _o = 150W _{PEP}	—	1.4 -j0.9	—	Ω
Series Equivalent Output Impedance	Z _{out}		—	2.3 -j0.9	—	Ω

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

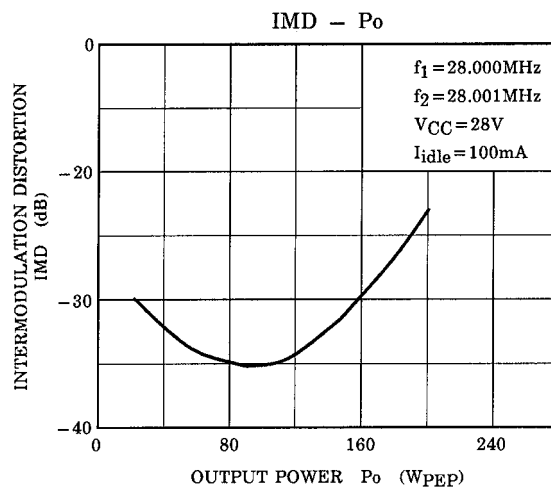
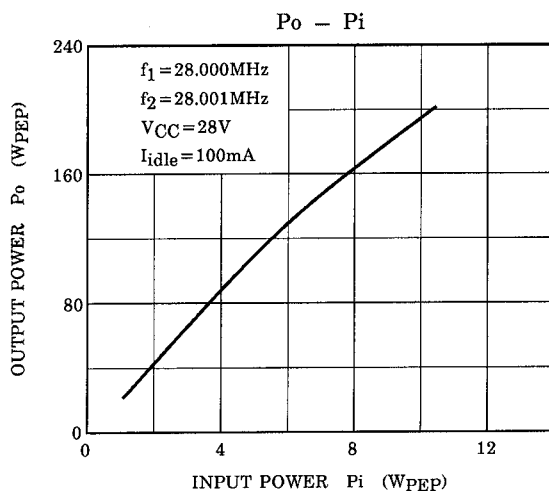
CAUTION

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.

Fig. Pi TEST CIRCUIT



C_1, C_2 : 7~150pF	L_1 : $\phi 0.8$ ENAMEL COATED COPPER WIRE, 14ID, 4T, 4P
C_3, C_4 : 7~150pF 2KWV	L_2 : $\phi 1.2$ ENAMEL COATED COPPER WIRE, 14ID, 3 1/2T, 3P
C_5, C_6 : 0.022 μ F	RFC_1 : $\phi 0.8$ ENAMEL COATED COPPER WIRE, 10ID, 9T (Ferrite Core TDK K2)
C_7 : 47 μ F 10WV	RFC_2 : $\phi 0.8$ ENAMEL COATED COPPER WIRE, 14ID, 20T
C_8 : 0.04 μ F	R_1 : 10 Ω (1W)
C_9 : 100 μ F 50WV	R_2 : 2 Ω (1/2W)
	R_3 : 10 Ω (5W)
	D : 1S1555



CAUTION

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