

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC2879

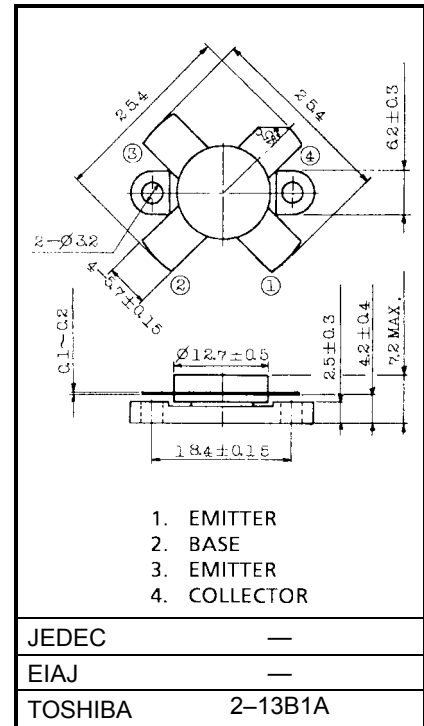
2~30MHz SSB LINEAR POWER AMPLIFIER APPLICATIONS
(LOW SUPPLY VOLTAGE USE)

Unit in mm

- Specified 12.5V, 28MHz Characteristics
- Output Power : $P_o = 100W_{PEP}$
- Power Gain : $G_p = 13dB$
- Collector Efficiency : $\eta_C = 35\%$ (Min.)
- Intermodulation Distortion: $IMD = -24dB$ (Max.)
(MIL Standard)

MAXIMUM RATINGS (Tc = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	45	V
Collector-Emitter Voltage	V_{CES}	45	V
Collector-Emitter Voltage	V_{CEO}	18	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	25	A
Collector Power Dissipation	P_C	250	W
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_{stg}	-65~175	°C



Weight: 5.2g

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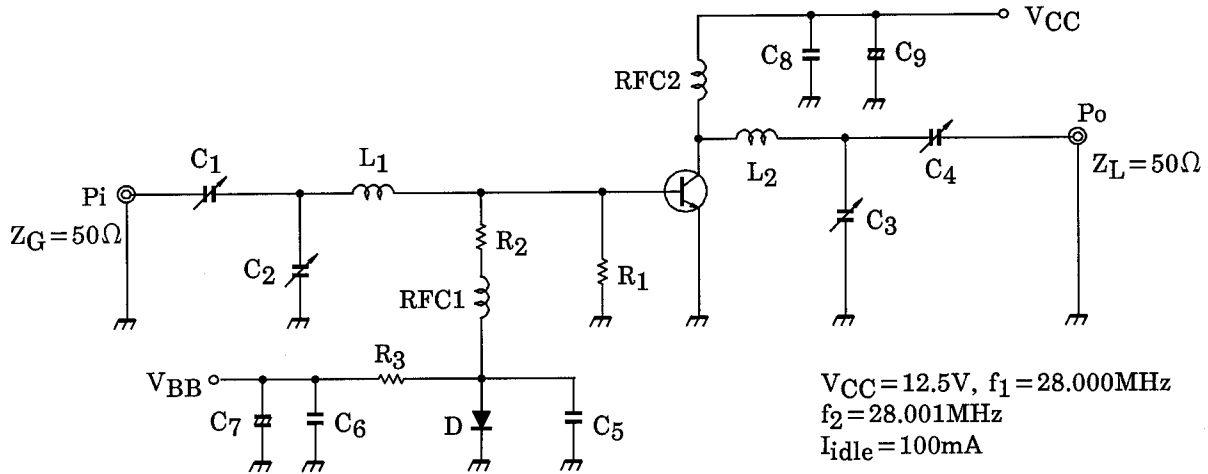
ELECTRICAL CHARACTERISTICS (T_c = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = 100mA, I _B = 0	18	—	—	V
Collector-Emitter Breakdown Voltage	V _{(BR)CES}	I _C = 100mA, V _{EB} = 0	45	—	—	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	—	150	
Collector Output Capacitance	C _{ob}	V _{CB} = 12.5V, I _E = 0 f = 1MHz	—	700	—	pF
Power Gain	G _p	V _{CC} = 12.5V, f ₁ = 28.000MHz f ₂ = 28.001MHz I _{idle} = 100mA P _o = 100W _{PEP} .(Fig.)	13.0	15.2	—	dB
Input Power	P _i		—	6	10	W _{PEP}
Collector Efficiency	η _C		35	—	—	%
Intermodulation Distortion	IMD		—	—	-24	dB
Series Equivalent Input Impedance	Z _{in}		—	1.45 -j0.95	—	Ω
Series Equivalent Output Impedance	Z _{out}	V _{CC} = 12.5V, f = 28MHz Δf = 1kHz, P _o = 100W _{PEP}	—	1.45 -j1.0	—	Ω

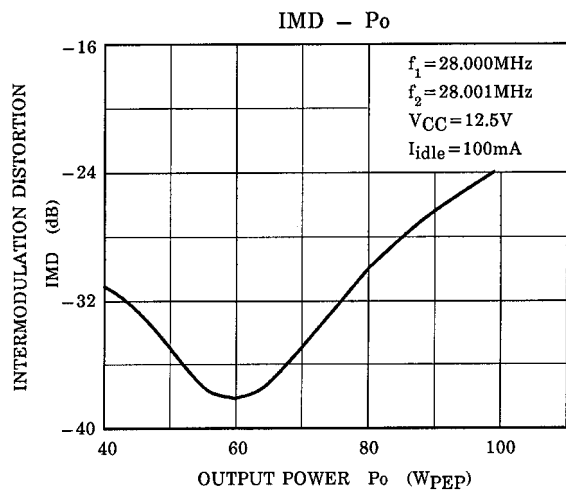
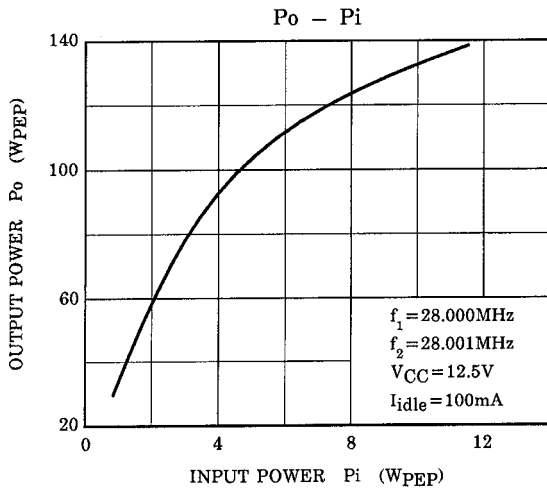
CAUTION

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 properly according to law. Do not intermingle with normal industrial or domestic waste.

Fig. Pi TEST CIRCUIT



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|----------------------------|--|
| 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 | $RFC1$: $\phi 0.8mm$ ENAMEL COATED COPPER WIRE, 10ID, 9T
(Ferrite Core TDK K2) |
| C_7 : 47 μ F 10WV | $RFC2$: $\phi 1.8mm$ ENAMEL COATED COPPER WIRE, 14ID, 20T |
| C_8 : 0.044 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.