

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC2879A

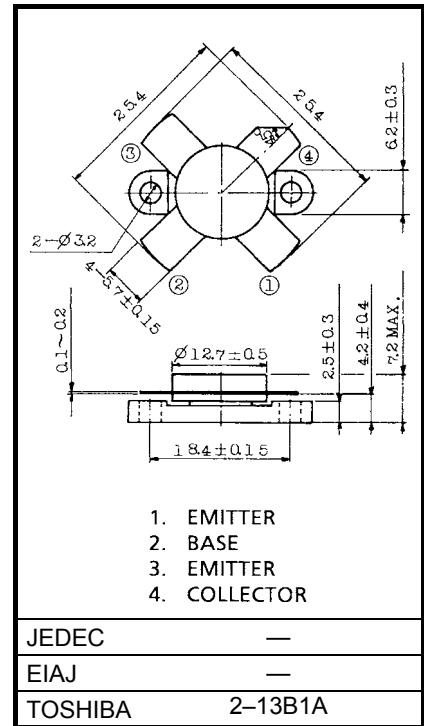
2~30MHz SSB LINEAR POWER AMPLIFIER APPLICATIONS
(LOW SUPPLY VOLTAGE USE)

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)

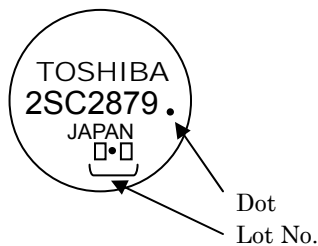
MAXIMUM RATINGS ($T_c = 25^\circ C$)

| 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 | $^\circ C$ |
| Storage Temperature Range | T_{stg} | -65~175 | $^\circ C$ |



Weight: 5.2g

MARKING



ELECTRICAL CHARACTERISTICS (Tc = 25°C)

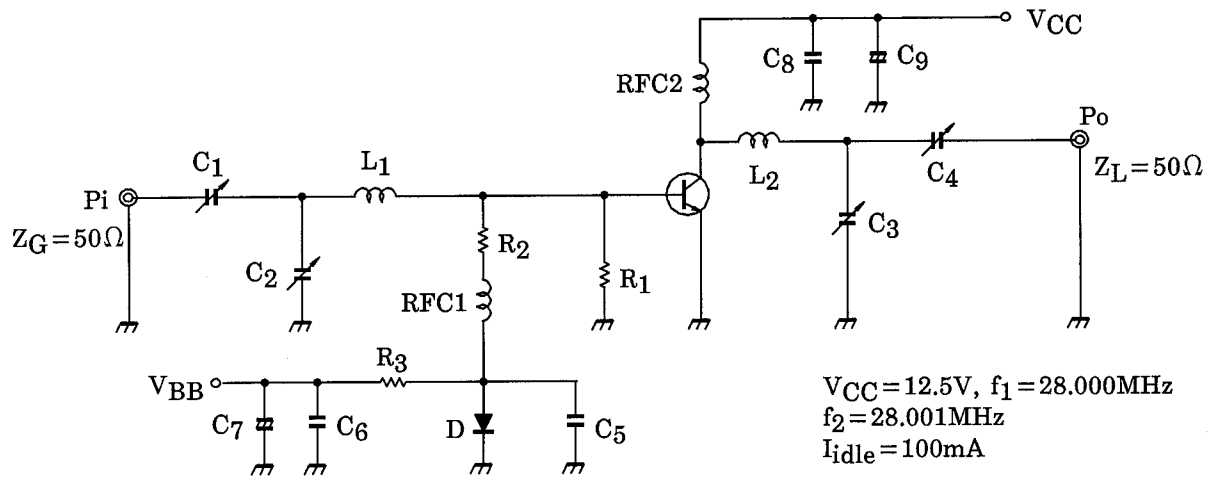
| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|-------------------------------------|---------------|---|------|----------------|------|-----------|
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = 100mA, I_B = 0$ | 18 | — | — | V |
| Collector-Emitter Breakdown 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} | $V_{CC} = 12.5V, f = 28MHz$ $\Delta f = 1kHz, P_o = 100W_{PEP}$ | — | 1.45 -j0.95 | — | Ω |
| Series Equivalent Output Impedance | Z_{out} | | — | 1.45 -j1.0 | — | Ω |

RESTRICTIONS ON PRODUCT USE

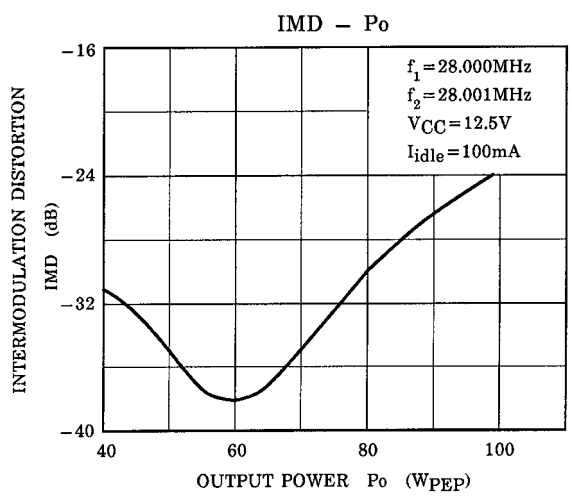
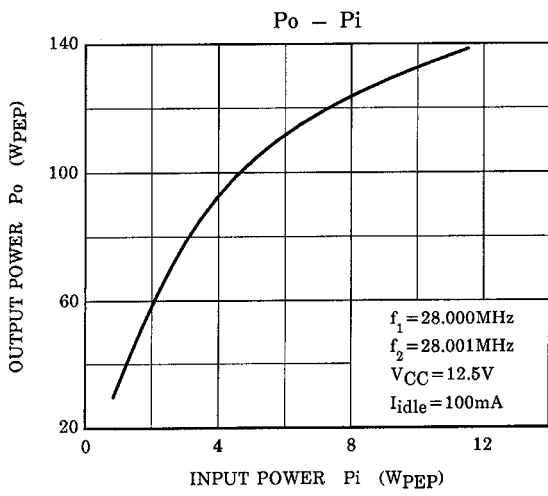
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Fig. Pi TEST CIRCUIT



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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.