

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC2879A

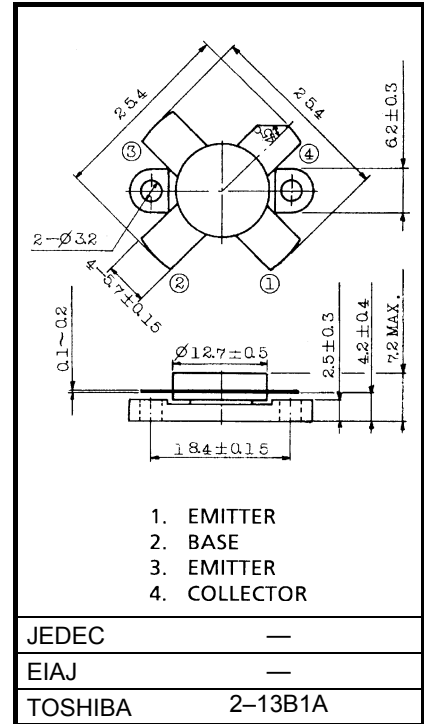
2~30MHz SSB LINEAR POWER AMPLIFIER APPLICATIONS
(LOW SUPPLY VOLTAGE USE)

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)

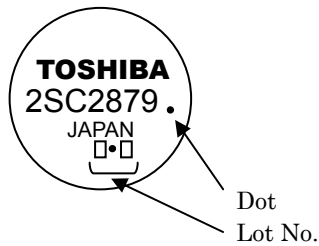
MAXIMUM RATINGS ($T_c = 25^\circ C$)

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

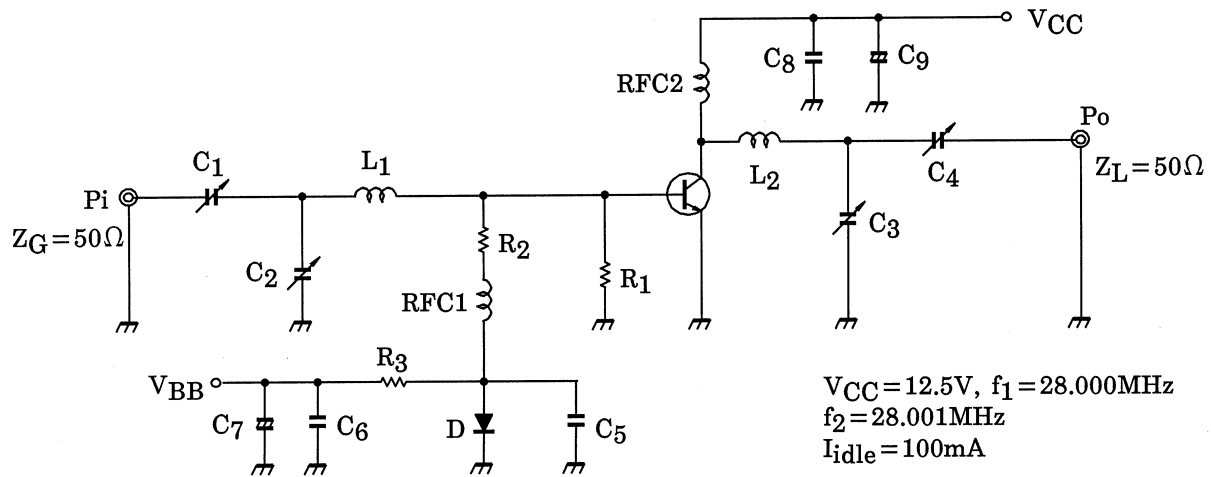
MARKING



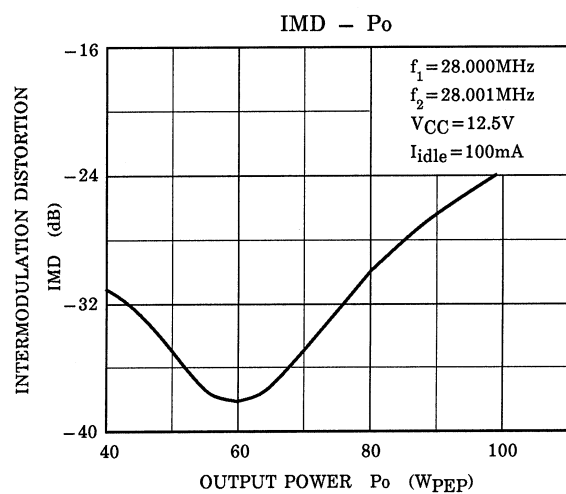
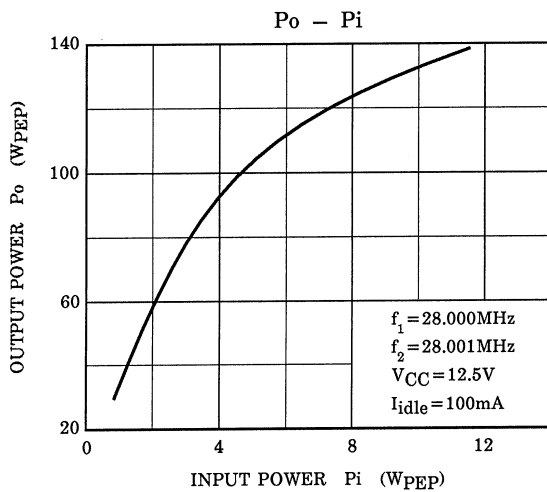
ELECTRICAL CHARACTERISTICS (T_c = 25°C)

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}	V _{CC} = 12.5V, f = 28MHz Δf = 1kHz, P _o = 100W _{PEP}	—	1.45 -j0.95	—	Ω
Series Equivalent Output Impedance	Z _{out}		—	1.45 -j1.0	—	Ω

Fig. Pi TEST CIRCUIT



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| C ₁ , C ₂ : 7~150pF | L ₁ : φ0.8 ENAMEL COATED COPPER WIRE, 14ID, 4T, 4P |
| C ₃ , C ₄ : 7~150pF 2KWV | L ₂ : φ1.2 ENAMEL COATED COPPER WIRE, 14ID, 3 1/2T, 3P |
| C ₅ , C ₆ : 0.022μF | RFC1 : φ0.8mm ENAMEL COATED COPPER WIRE, 10ID, 9T
(Ferrite Core TDK K2) |
| C ₇ : 47μF 10WV | RFC2 : φ1.8mm ENAMEL COATED COPPER WIRE, 14ID, 20T |
| C ₈ : 0.044μF | R ₁ : 10Ω (1W) |
| C ₉ : 100μF 50WV | R ₂ : 2Ω (1/2W) |
| | R ₃ : 10Ω (5W) |
| | D : 1S1555 |



CAUTION

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

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