

2SC1764

SILICON NPN EPITAXIAL PLANAR TYPE

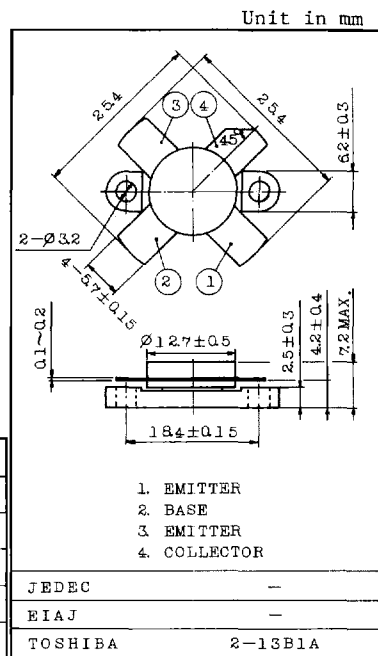
2 ~ 30MHz SSB LINEAR POWER AMPLIFIER APPLICATIONS.
(28V SUPPLY VOLTAGE USE)

FEATURES:

- . Specified 28V, 28MHz Characteristics
 - : Output Power : $P_o=80W_{PPEP}$
 - : Minimum Gain : $G_{pe}=14.5dB$
 - : Efficiency : $\eta_c=40\%$ (Min.)
 - : Intermodulation Distortion : $IMD=-30dB$ (Max.)

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	65	V
Collector-Emitter Voltage	V_{CEO}	35	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	12	A
Collector Power Dissipation (Tc=25°C)	P_C	140	W
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_{stg}	-65 ~ 175	°C

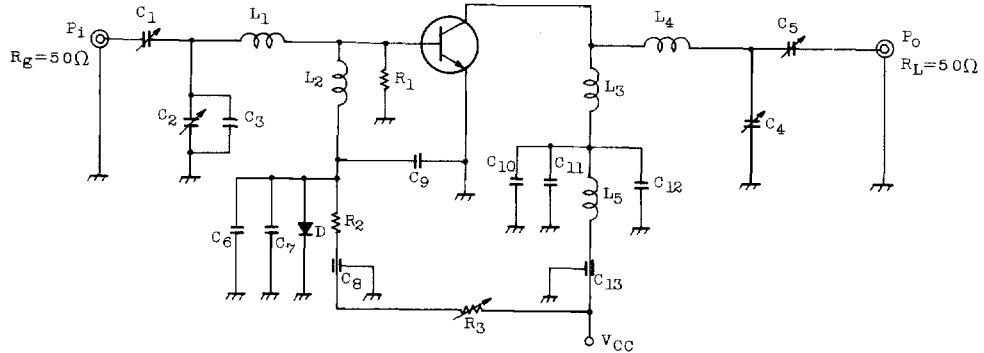


Weight : 5.2g

ELECTRICAL CHARACTERISTICS (Ta=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	$V_{(BR)CER}$	$I_C=20mA, R_{EB}=10\Omega$	65	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	4	—	—	V
DC Current Gain	h_{FE}	$V_{CE}=10V, I_C=10A$	10	—	—	
Transition Frequency	f_T	$V_{CE}=15V, I_C=0.2A$	50	—	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=28V, I_E=0, f=1MHz$	—	220	300	pF
Power Gain	G_{pe}	$V_{CC}=28V, f=28MHz$	14.5	—	—	dB
Input Power	P_i	2-Tone, $\Delta f=1kHz$	—	—	2.8	W _{PPEP}
Collector Efficiency	η_c	$I_{idle}=40mA, P_o=80W_{PPEP}$	40	—	—	%
Intermodulation Distortion	IMD	(Fig.)	—	—	-30	dB

Fig. P_i TEST CIRCUIT



C1, C4, C5 : ~100pF

C2 : ~ 50pF

C3 : 100pF

C6, C10 : 0.1μF

C7, C12 : 22μF

C8, C13 : 6000pF FEED THROUGH

C9 : 0.1μF

C11 : 0.01μF

R1 : 10Ω, 1W

R2 : 500Ω, 2W

R3 : ~200Ω

L1 : φ1.0 SILVER PLATED COPPER WIRE,
12ID, 4T, 20 LENGTH

L2 : 10μH

L3 : φ1.6 SILVER PLATED COPPER WIRE,
12ID, 2T, 8 LENGTH

L4 : φ1.6 SILVER PLATED COPPER WIRE,
20ID, 3.5T, 22 LENGTH

L5 : 10μH

D : 1S1555

