

Unit in mm

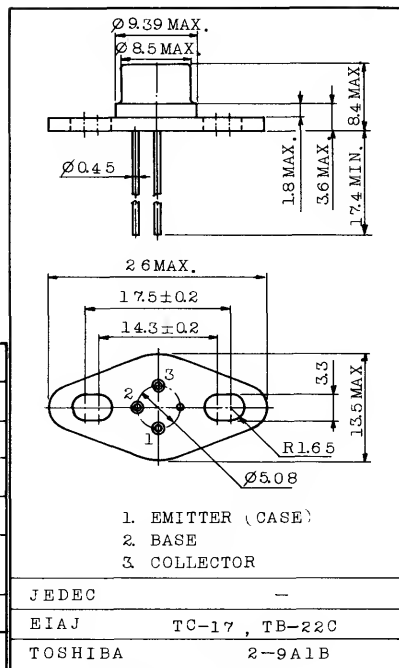
UHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES:

- Output Power : $P_o=2.8W(\text{Min.})$
($f=470\text{MHz}$, $V_{CC}=12.6V$, $P_i=0.6W$)
- 100% Tested for Load Mismatch Stress at All Phase Angles with 30:1 VSWR @ $V_{CC}=12.6V$, $P_i=0.6W$, $f=470\text{MHz}$

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	35	V
Collector-Emitter Voltage	V_{CEO}	17	V
Emitter-Base Voltage	V_{EBO}	3.5	V
Collector Current	I_C	0.8	A
Collector Power Dissipation ($T_c=25^\circ\text{C}$)	P_C	7.5	W
Junction Temperature	T_j	175	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-65 \sim 175$	$^\circ\text{C}$



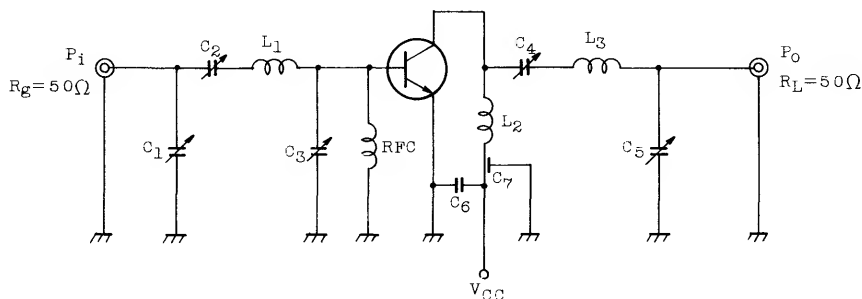
Weight : 3.7g

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=15V$, $I_E=0$	—	—	1	mA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}$, $I_E=0$	35	—	—	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5\text{mA}$, $I_B=0$	17	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=0.1\text{mA}$, $I_C=0$	3.5	—	—	V
DC Current Gain	h_{FE}	$V_{CE}=5V$, $I_C=0.5A$	10	—	—	—
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$, $I_E=0$, $f=1\text{MHz}$	—	—	15	pF
Output Power	P_o	(Fig.)	2.8	3.2	—	W
Power Gain	G_{pe}	$V_{CC}=12.6V$, $f=470\text{MHz}$,	6.7	7.3	—	dB
Collector Efficiency	η_c	$P_i=0.6W$	60	—	—	%

2SC1765

Fig. $f=470\text{MHz}$ P_O TEST CIRCUIT



$C_1, C_2, C_3 : \sim 10\text{pF}$

$C_4, C_5 : \sim 30\text{pF}$

$C_6 : 0.02\mu\text{F}$

$C_7 : 1000\text{pF}$ FEED THROUGH

$L_1 : \phi 1.6$ SILVER PLATED COPPER WIRE, 7ID, $\frac{1}{2}\text{T}$

$L_2 : \phi 1.2$ SILVER PLATED COPPER WIRE, 10ID, $\frac{1}{2}\text{T}$

$L_3 : \phi 1.6$ SILVER PLATED COPPER WIRE, 10ID, $\frac{1}{2}\text{T}$

$\text{RFC} : \phi 0.7$ ENAMEL COATED COPPER WIRE, 3ID, 5T

