SILICON NPN EPITAXIAL PLANAR TYPE

2SC1165

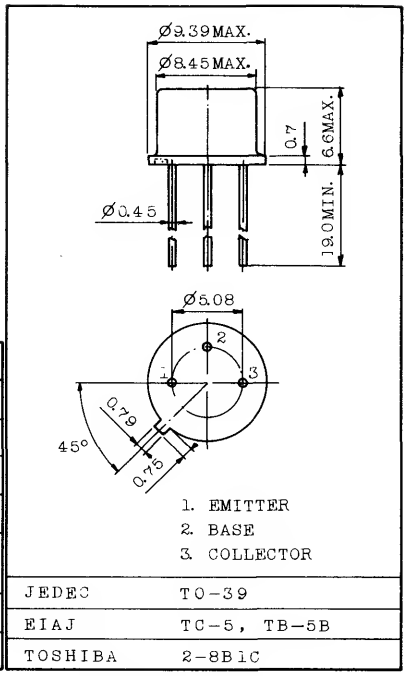
UHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES:

. Output Power : P_O=0.9W(Min.)
(f=470MHz, V_{CC}=12.6V, P_i=0.3W)

. All Electrodes Insulated from Case.

Unit in mm



JEDEC	TO-39
EIAJ	TC-5, TB-5B
TOSHIBA	2-8B1C

Weight : 1.2g

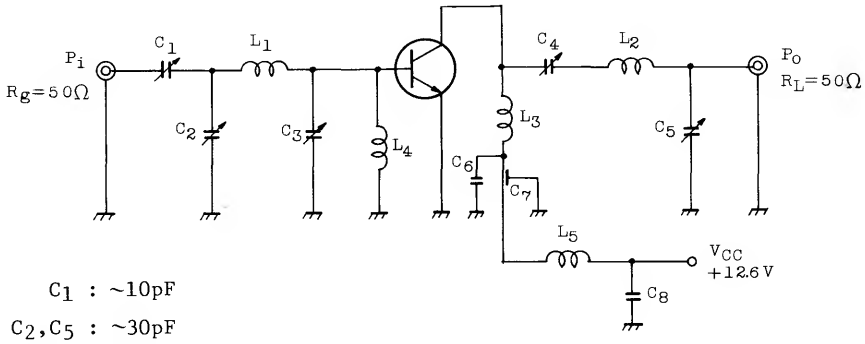
MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	0.5	A
Collector Power Dissipation (Tc=25°C)	P_C	5	W
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_{stg}	-65~175	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Cueernt	I_{CBO}	V_{CB}=15V, I_E=0	-	-	1	μA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=1mA, I_E=0	40	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=10mA, I_B=0	20	-	-	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=0.1A	20	-	-	
Collector Output Capacitance	Cob	V_{CB}=10V, I_E=0, f=1MHz	-	6.5	10	pF
Output Power	P_o	(Fig.)	0.9	1.0	-	W
Power Gain	G_{pe}	V_{CC}=12.6V, f=470MHz,	4.7	5.2	-	dB
Collector Efficiency	η_c	P_i=0.3W	60	-	-	%

Fig. f=470MHz P_O TEST CIRCUIT



C_1 : ~10pF
C_2,C_5 : ~30pF
C_3,C_4 : ~25pF
C_5,C_8 : 0.01μF
C_7 : 1000pF
L_1 : φ0.8 SILVER PLATED COPPER WIRE, 6ID, 2T
L_2 : φ1 SILVER PLATED COPPER WIRE, 25 LENGTH, STRAIGHT
L_3 : φ1 SILVER PLATED COPPER WIRE, 20 LENGTH, STRAIGHT
L_4,L_5 : RFC