2SC1169

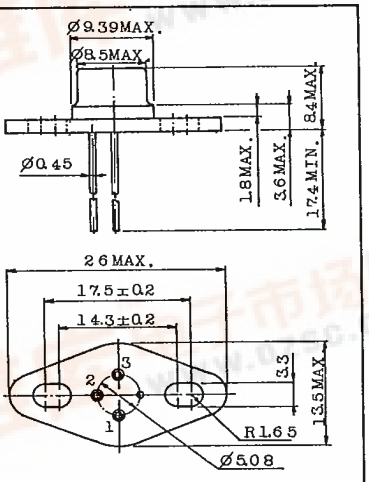
SILICON NPN EPITAXIAL PLANAR TYPE

VHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES :

. Output Power : P_O=2.5W (Min.)
(f=175MHz, V_{CC}=13.5V, P_i=0.25W)

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-9A1B

Weight : 3.7g

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	1	A
Collector Power Dissipation (Tc=25°C)	P_C	10	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 Current	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	hFE	V_{CE}=5V, I_C=0.2A	20	-	-	-
Collector Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	6.5	10	pF
Output Power	P_O	(Fig.)	2.5	2.7	-	W
Power Gain	G_{pe}	V_{CC}=13.5V, f=175MHz, P_i=0.25W	10	10.3	-	dB
Collector Efficiency	η_C		60	73	-	%
Series Equivalent Input Impedance	Z_{in}	V_{CC}=13.5V, f=175MHz, P_O=2.5W	-	5.0 +j2.5	-	Ω
Series Equivalent Output Impedance	Z_{OUT}		-	30 -j20	-	Ω

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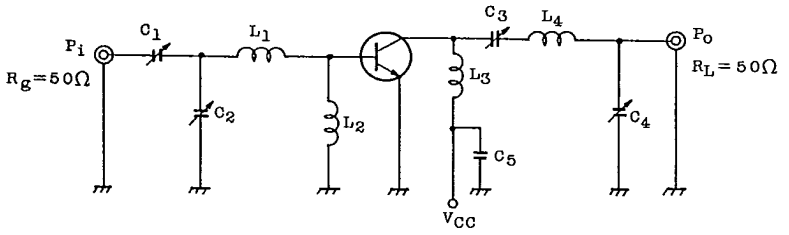
Fig. P_O TEST CIRCUIT



C_1, C_2, C_3, C_4 : 3.5 ~ 30pF

C_5 : 0.001μF FEED THROUGH AND 0.05μF CERAMIC CONDENSER

L_1, L_3 : φ1.2 SILVER PLATED COPPER WIRE, 8ID, 1T

L_2 : 1μH CHOLK COIL

L_4 : φ1.2 SILVER PLATED COPPER WIRE, 8ID, 7/4T