

SILICON NPN EPITAXIAL PLANAR TYPE

2SC2118

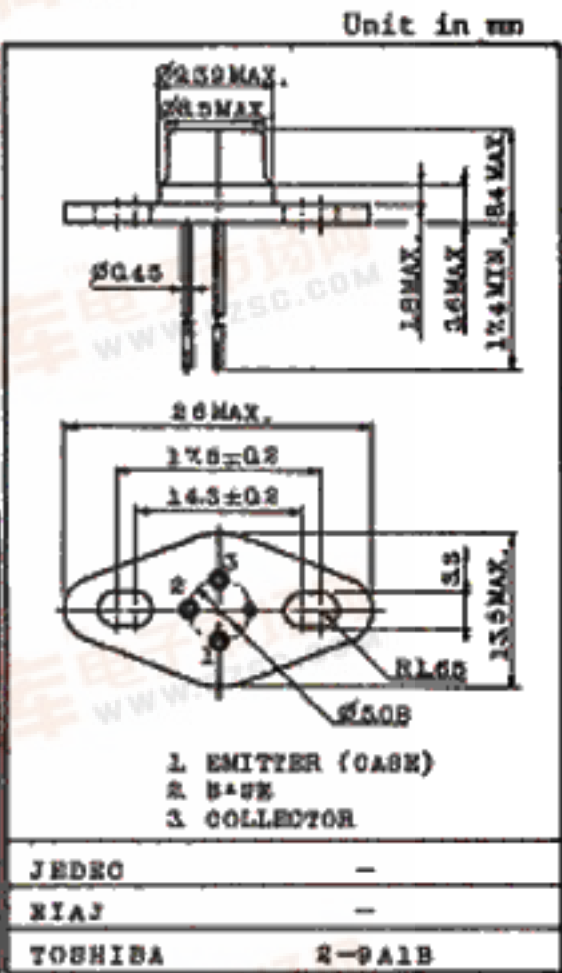
VHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES :

- Output Power : $P_o=5W$ (Min.)
($f=175MHz$, $V_{CC}=13.5V$, $P_i=0.6W$)
- 100% Tested for Load Mismatch Stress at All Phase Angles with 30:1 VSWR @ $V_{CC}=15V$, $P_i=0.6W$, $f=175MHz$

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

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	1.4	A
Collector Power Dissipation ($T_c=25^{\circ}C$)	P_C	10	W
Junction Temperature	T_j	175	$^{\circ}C$
Storage Temperature Range	T_{stg}	-65 ~ 175	$^{\circ}C$



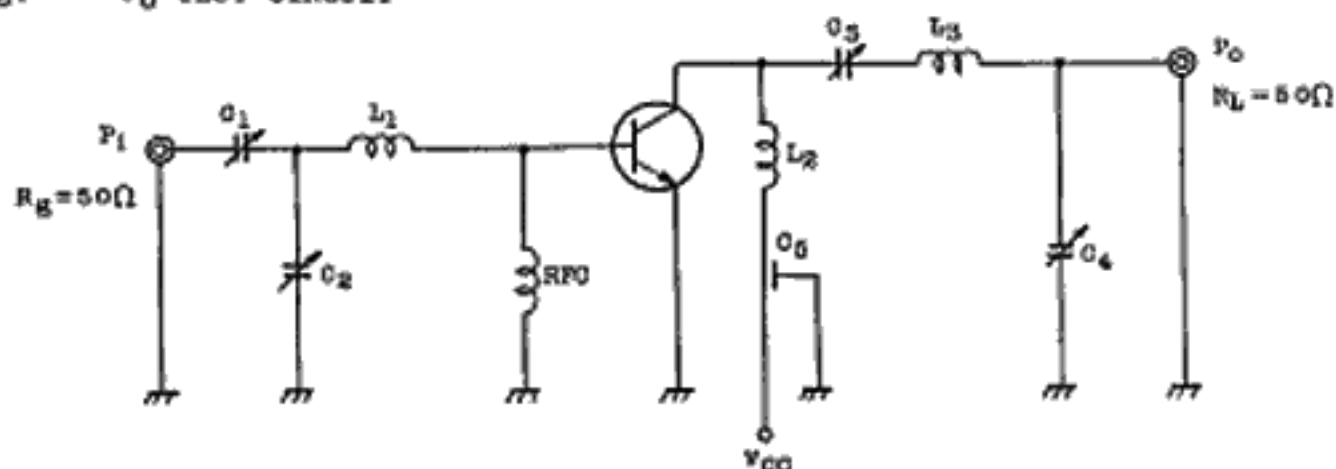
Weight : 3.7g

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

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	$V_{(BR)CBO}$	$I_C=2mA$, $I_E=0$	35	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10mA$, $I_B=0$	17	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=0.2mA$, $I_C=0$	3.5	-	-	V
DC Current Gain	h_{FE}	$V_{CE}=5V$, $I_C=1A$	10	-	-	
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$, $I_E=0$, $f=1MHz$	-	13	25	pF
Output Power	P_o	(Fig.)	5.0	6.0	-	W
Power Gain	G_{pe}	$V_{CC}=13.5V$, $f=175MHz$, $P_i=0.6W$	9.2	10	-	dB
Collector Efficiency	η_c		60	76	-	%



Fig. P_O TEST CIRCUIT



C_1, C_2, C_3, C_4 : $\sim 30\text{pF}$

C_5 : 1000pF FEED THROUGH

L_1, L_2 : $\phi 1.2$ SILVER PLATED COPPER WIRE, 8ID, 1T

L_3 : $\phi 1.2$ SILVER PLATED COPPER WIRE, 8ID, 7/4T

RFC : $1\mu\text{H}$ CHOKE COIL

