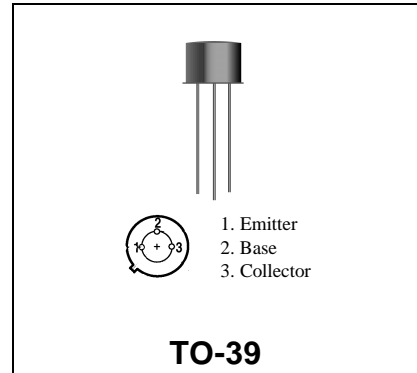


**2N6255**

**RF & MICROWAVE DISCRETE  
 LOW POWER TRANSISTORS**

Features

- Silicon NPN, To-39 packaged VHF Transistor
- 3.0 Watt Power Output @ 175 MHz
- Power Gain,  $G_{PE} = 7.8$  dB
- Efficiency = 50%



DESCRIPTION:

Silicon NPN transistor, designed for 12.5 volt VHF equipment. Applications include amplifier; pre-driver, driver, and output stages. Also suitable for oscillator and frequency-multiplier functions.

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
$V_{CEO}$	Collector-Emitter	18	Vdc
$V_{CBO}$	Collector-Base Voltage	36	Vdc
$V_{EBO}$	Emitter-Base Voltage	4.0	Vdc
$I_C$	Collector Current	1	A

Thermal Data

$P_D$	Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	5.0 28.5	Watts mW/ °C
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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC  
 (off)

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BVCES	Collector-Emitter Breakdown Voltage (IC = 5.0 mA <sub>dc</sub> , VBE = 0V <sub>dc</sub> )	36	-	-	V <sub>dc</sub>
BVCEO	Collector-Emitter Breakdown Voltage (IC=10 mA <sub>dc</sub> , IB=0)	18	-	-	V <sub>dc</sub>
BVEBO	Emitter-Base Breakdown Voltage (IE = 1.0 mA <sub>dc</sub> , IC = 0)	4.0	-		V <sub>dc</sub>
ICES	Collector Cutoff Current (VCE = 15 V <sub>dc</sub> , VBE = 0 V <sub>dc</sub> )	-	-	5.0	mA
ICBO	Emitter Cutoff Current (VCB = 15 V <sub>dc</sub> , IE = 0)	-	-	.25	mA

(on)

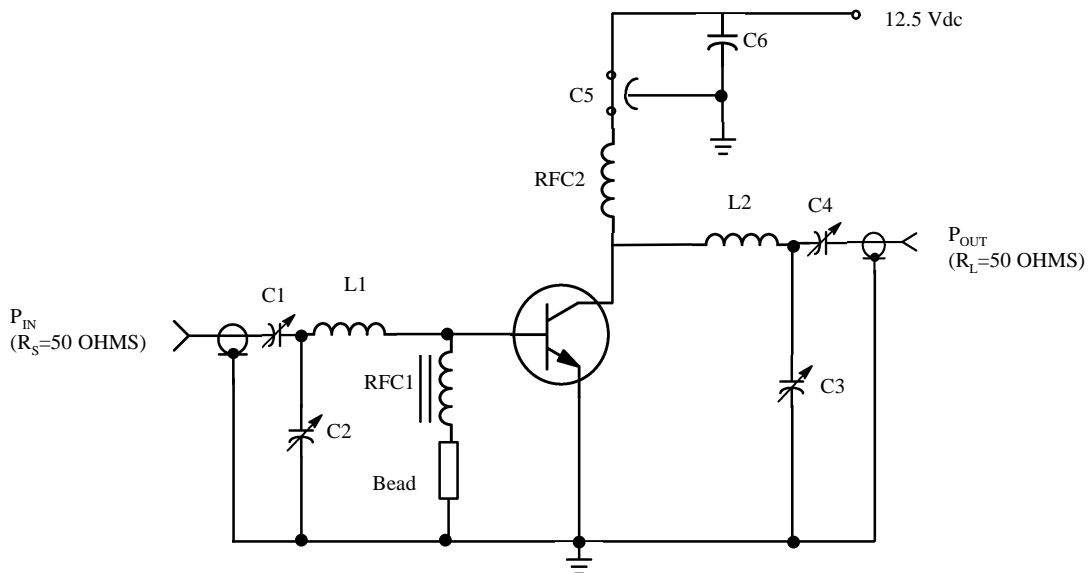
HFE	DC Current Gain (IC = 250 mA <sub>dc</sub> , VCE = 5.0 V <sub>dc</sub> )	5.0	-	-	-
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DYNAMIC

Symbol	Test Conditions	Value			Unit
COB	Output Capacitance (VCB = 12.5V <sub>dc</sub> , f = 1.0 MHz)	-	15	20	pF

FUNCTIONAL

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
G <sub>PE</sub>	Power Gain	Test Circuit-Figure 1 P <sub>out</sub> = 3.0 W, VCC = 12.5V <sub>dc</sub> f = 175 MHz	7.8	-	-	dB
η <sub>c</sub>	Collector Efficiency	Test Circuit-Figure 1 P <sub>out</sub> = 3.0 W, VCC = 12.5V <sub>dc</sub> f = 175 MHz	50	-	-	%



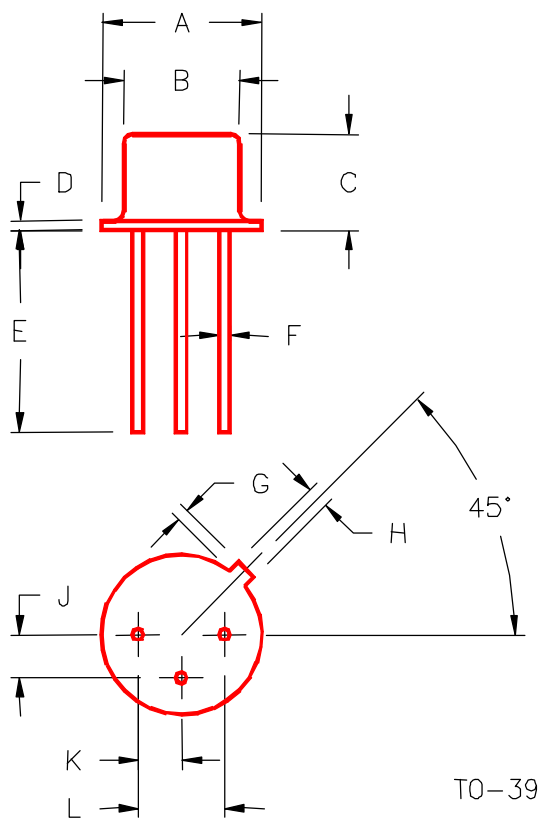
**Figure 1 - 175 MHz RF AMPLIFIER CIRCUIT FOR  $G_{PE}$ ,  
 AND EFFICIENCY SPECIFICATIONS.**

C1,3: 2.0-50 pF ARCO 461 ELEMENCO  
 C5: 1000 pF FEED THRU  
 L1: 1 TURN #18 AWG ¼" I.D.  
 RFC2: 0.15 uH MOLDED CHOKE

C2,4: 5.0-80 pF ARCO 462 ELEMENCO  
 C6: 5.0 uF  
 L2: 2 1/2 TURNS #18 AWG ¼" I.D.  
 BEAD: FERROXCUBE 56-570-65/3B

RFC1: 0.15 uH MOLDED CHOKE WITH BEAD ON GROUND LEG

PACKAGE STYLE M246



TO-39

	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.350/8,89	.370/9,40	J	.095/2,41	.105/2,67
B	.315/8,00	.335/8,51	K	.095/2,41	.105/2,67
C	.240/6,10	.260/6,60	L	.190/4,83	.210/5,33
D	.015/0,38	.045/1,14			
E	.500/12,70				
F	.016/0,41	.019/0,48			
G	.029/0,74	.040/1,02			
H	.028/0,71	.034/0,86			

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