

Part Number: BLY93A
 Description: BJTs, Si NPN Power HF

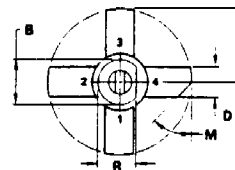
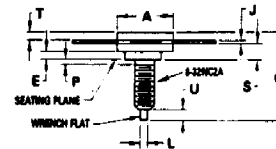
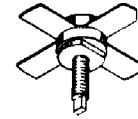
The RF Line

NPN SILICON RF POWER TRANSISTOR

... designed primarily for wideband large-signal amplifier stages in the 125-175 MHz frequency range.

- Specified 28 Volt, 175 MHz Characteristics –
 Output Power = 40 Watts
 Minimum Gain = 7.6 dB
 Efficiency = 60%
- Characterized from 125 to 175 MHz
- Includes Series Equivalent Impedances

**40 W – 175 MHz
 RF POWER
 TRANSISTOR
 NPN SILICON**



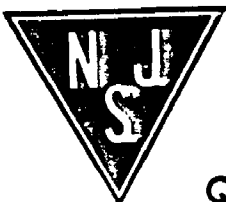
STYLE 1:
 PIN 1. EMITTER
 2. BASE
 3. EMITTER
 4. COLLECTOR

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	9.40	9.78	0.370	0.385
B	8.13	8.38	0.320	0.330
C	17.02	20.07	0.670	0.790
D	5.46	5.97	0.215	0.235
E	1.78	—	0.070	—
J	0.08	0.18	0.003	0.007
K	12.45	—	0.490	—
L	1.40	1.78	0.055	0.070
M	45° NOM		45° NOM	
P	—	1.27	—	0.050
R	7.59	7.80	0.299	0.307
S	4.01	4.52	0.158	0.178
T	2.11	2.54	0.083	0.100
U	2.49	3.35	0.098	0.132

***MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	35	V _{dc}
Collector-Base Voltage	V _{CB}	65	V _{dc}
Emitter-Base Voltage	V _{EB}	4.0	V _{dc}
Collector Current – Continuous	I _C	5.0	A _{dc}
Total Device Dissipation @ T _C = 25°C Derate above 25°C	P _D	60 342	Watts mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-65 to +200	°C

*Indicates JEDEC Registered Data.



Quality Semi-Conductors

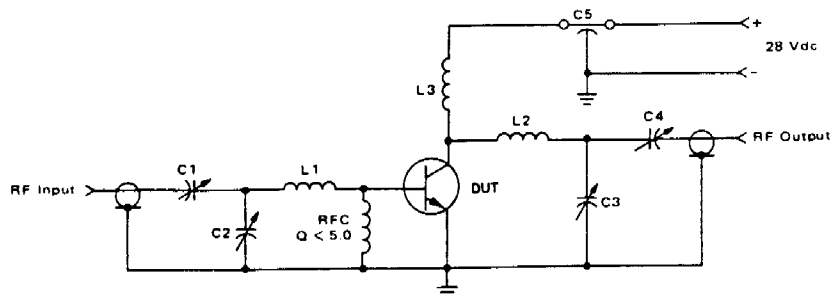
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***ELECTRICAL CHARACTERISTICS** ($T_C = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (Note 1) ($I_C = 200\text{ mAdc}, I_B = 0$)	$V_{(BR)CEO}$	35	-	-	Vdc
Collector-Emitter Breakdown Voltage ($I_C = 200\text{ mAdc}, V_{BE} = 0$)	$V_{(BR)CES}$	65	-	-	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10\text{ mAdc}, I_C = 0$)	$V_{(BR)EBO}$	4.0	-	-	Vdc
Collector Cutoff Current ($V_{CB} = 30\text{ Vdc}, I_E = 0$)	I_{CBO}	-	-	1.0	mAdc
ON CHARACTERISTICS					
DC Current Gain ($I_C = 500\text{ mAdc}, V_{CE} = 5.0\text{ Vdc}$)	h_{FE}	5.0	-	-	-
DYNAMIC CHARACTERISTICS					
Output Capacitance ($V_{CB} = 30\text{ Vdc}, I_E = 0, f = 0.1\text{ to }1.0\text{ MHz}$)	C_{ob}	-	45	65	pF
FUNCTIONAL TEST					
Common Emitter Amplifier Power Gain (Figure 1) ($P_{out} = 40\text{ Watts}, V_{CE} = 28\text{ Vdc}, f = 175\text{ MHz}$)	G_{pE}	7.6	8.1	-	dB
Collector Efficiency (Figure 1) ($P_{out} = 40\text{ Watts}, V_{CE} = 28\text{ Vdc}, f = 175\text{ MHz}$)	η	60	-	-	%

Note 1: Pulsed through 25 mH inductor.
 *Indicates JEDEC Registered Data.

FIGURE 1 - 175 MHz TEST CIRCUIT SCHEMATIC



- C1, C2, C3, C4 ARCO 464 25-280 pF
- C5 0.1 μF
- L1 1" Straight #14 AWG
- L2 1 Turn #16 AWG, 1/4" I.D.
- L3 0.22 μH

