

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07456 07-33-07

SILICON NPN EPITAXIAL PLANAR TYPE

**2SC1678**

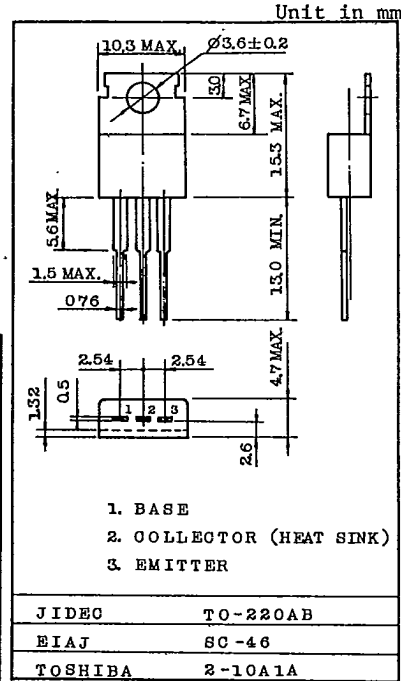
27 MHz POWER AMPLIFIER APPLICATIONS.

## FEATURES:

- Recommended for Output Stage Application of AM 4W Transmitter.
- High Power Gain.

## MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	65	V
Collector-Emitter Voltage R <sub>BE</sub> =10Ω	V <sub>CER</sub>	65	V
Emitter-Base Voltage	V <sub>EBO</sub>	4.0	V
Collector Current	I <sub>C</sub>	3	A
Base Current	I <sub>B</sub>	0.4	A
Emitter Current	I <sub>E</sub>	-3	A
Collector Power Dissipation (T <sub>c</sub> =25°C)	P <sub>C</sub>	10	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 ~ 150	°C



Mounting Kit No. AC75  
Weight : 1.9g

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

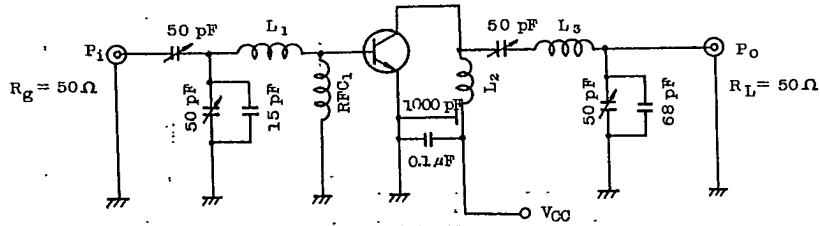
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I <sub>CB0</sub>	V <sub>CB</sub> =30V, I <sub>C</sub> =0	-	-	10	μA
Collector Cut-off Current		I <sub>CEO</sub>	V <sub>CE</sub> =20V, I <sub>B</sub> =0	-	-	100	μA
Breakdown Voltage	Collector-Base	V(BR)CBO	I <sub>C</sub> =1.0mA, I <sub>E</sub> =0	65	-	-	V
	Collector-Emitter	V(BR)CER	I <sub>C</sub> =10mA, R <sub>BE</sub> =10Ω	65	-	-	
	Emitter-Base	V(BR)EBO	I <sub>E</sub> =1.0mA, I <sub>C</sub> =0	4.0	-	-	
DC Current Gain		h <sub>FE</sub> (1)	V <sub>CE</sub> =5V, I <sub>C</sub> =0.5A (Note)	15	-	-	
		h <sub>FE</sub> (2)	V <sub>CE</sub> =5V, I <sub>C</sub> =1.5A (Note)	10	-	-	
Collector Emitter Saturation Voltage		V <sub>CE(sat)</sub>	I <sub>C</sub> =0.5A, I <sub>B</sub> =0.05A	-	0.5	1.0	V
Transition Frequency		f <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =100mA	100	-	-	MHz
Collector Output Capacitance		C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz	-	30	45	pF
Output Power Fig.		P <sub>o</sub>	V <sub>CC</sub> =12V, P <sub>1</sub> =0.4W I <sub>DC</sub> =41.5mA(Typ.), f=27MHz	3.0	-	-	W

Note : Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

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**2SC1678**Fig. P<sub>0</sub> TEST CIRCUIT

- $L_1$  :  $\phi$  0.5 mm ENAMEL COATED COPPER WIRE, 7T, 8 mm I.D.  
 $L_2$  :  $\phi$  0.5 mm ENAMEL COATED COPPER WIRE, 5T, 8 mm I.D.  
 $L_3$  :  $\phi$  0.3 mm ENAMEL COATED COPPER WIRE, 18T, 6 mm I.D.  
 $RFC_1$  :  $\phi$  0.2 mm ENAMEL COATED COPPER WIRE, 76T, 5 mm I.D.

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This datasheet has been downloaded from:

[www.DatasheetCatalog.com](http://www.DatasheetCatalog.com)

Datasheets for electronic components.