

SPECIFICATION TRANSISTORS,  
DIODES

NO. 17 — T —

2SC756A

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Sony-2SC756A features an excellent rf-characteristics in the high current region, which has been designed for rf power-amplifier applications. This is the optimum transistor for rf power-amplifier applications in a 4-watts output of 27 megahertz citizens band transmitter and driver applications in a 12-watts output of 27 megahertz single-sideband transmitter.

The transistor 2SC 756A is available as can-package type.

1. Construction; NPN APM (Advanced Passivated Mesa) Type Silicon Transistor
2. Use; RF Power Amplifier, High Speed Switching
3. Outline; TO- 5 (See 9. Dimensional Outline)
4. Absolute Maximum Ratings; ( $T_a=25^\circ\text{C}$ )

Collector-to-Base Voltage	$V_{CBO}$	100 V
Collector-to-Emitter Voltage	$V_{CEO}$	60 V
Emitter-to-Base Voltage	$V_{EB0}$	6 V
Collector Current	$I_C$	4 A
Base Current	$I_B$	0.8 A
Collector Power Dissipation ( $T_C=25^\circ\text{C}$ )	$P_C$	10 W
Junction Temperature	$T_j$	150 °C
Storage Temperature	$T_{stg}$	-65~+200 °C

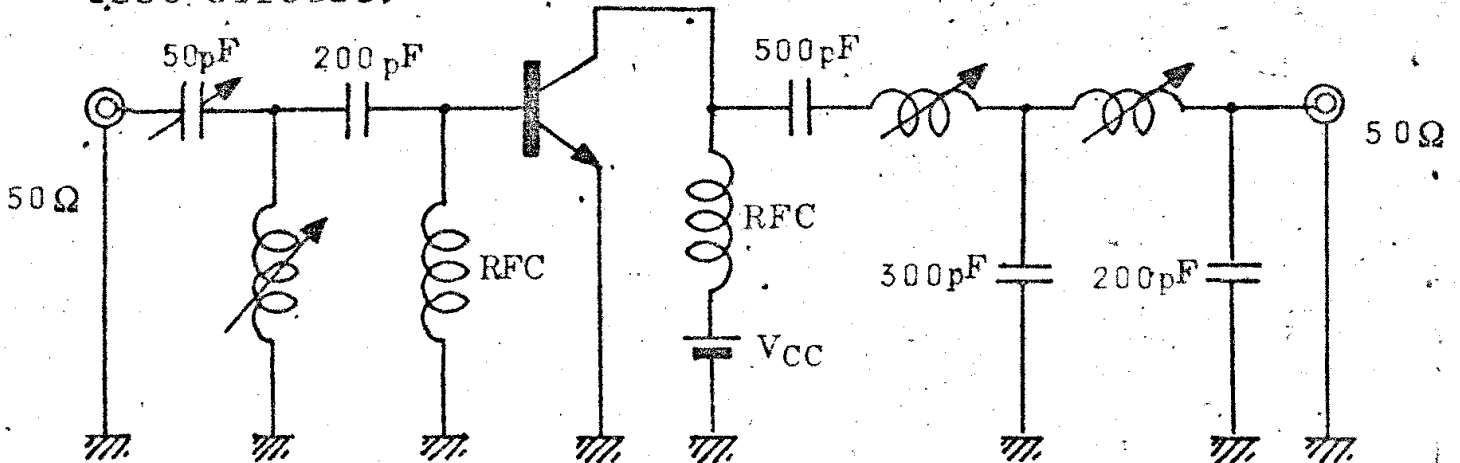
5. ELECTRICAL CHARACTERISTICS (Ta=25°C)

Characteristic	Symbol	Conditions	Min.	Typ.	Max.	Units
Collector-Cutoff Current:	$I_{CBO}$	$V_{CB}=50V, I_E=0$			1	$\mu A$
Emitter-Cutoff Current:	$I_{EBO}$	$V_{EB}=6V, I_C=0$			2	$\mu A$
Collector-to-Base Voltage:	$V_{CBO}$	$I_C=100\mu A$	100			V
Collector-to-Emitter Sustaining Voltage:	$V_{CEO(sus)}$	$I_C=10mA$	60			V
Collector-to-Emitter Saturation Voltage:	$V_{CE(sat)}$	$I_C=2A, I_B=0.4A$		0.3	0.8	V
Base-to-Emitter Saturation Voltage:	$V_{BE(sat)}$			1.0	1.4	V
DC Forward-Current Transfer Ratio:	$h_{FE1}$	$V_{CE}=2V, I_C=100mA$	27	100	264	
	$h_{FE2}$	$V_{CE}=2V, I_C=2A$		60		
Output Capacitance:	$C_{ob}$	$V_{CB}=10V, I_E=0$ $f=1MHz$		45	60	$Pf$
Collector-to-Base Time Constant:	$C_c \cdot r_{bb'}$	$V_{CB}=10V, I_E=0$ $f=31.9MHz$				$P_s$
Transition Frequency:	$f_T$	$V_{CB}=10V, I_E=-100mA$	70	140		MHz
Power Output: (See 7. Test Circuit)	$P_o$	$P_i=0.4W, V_{CC}=12V$ $f=27MHz$	4	6		W
Power Gain:	$P \cdot G$		10			dB

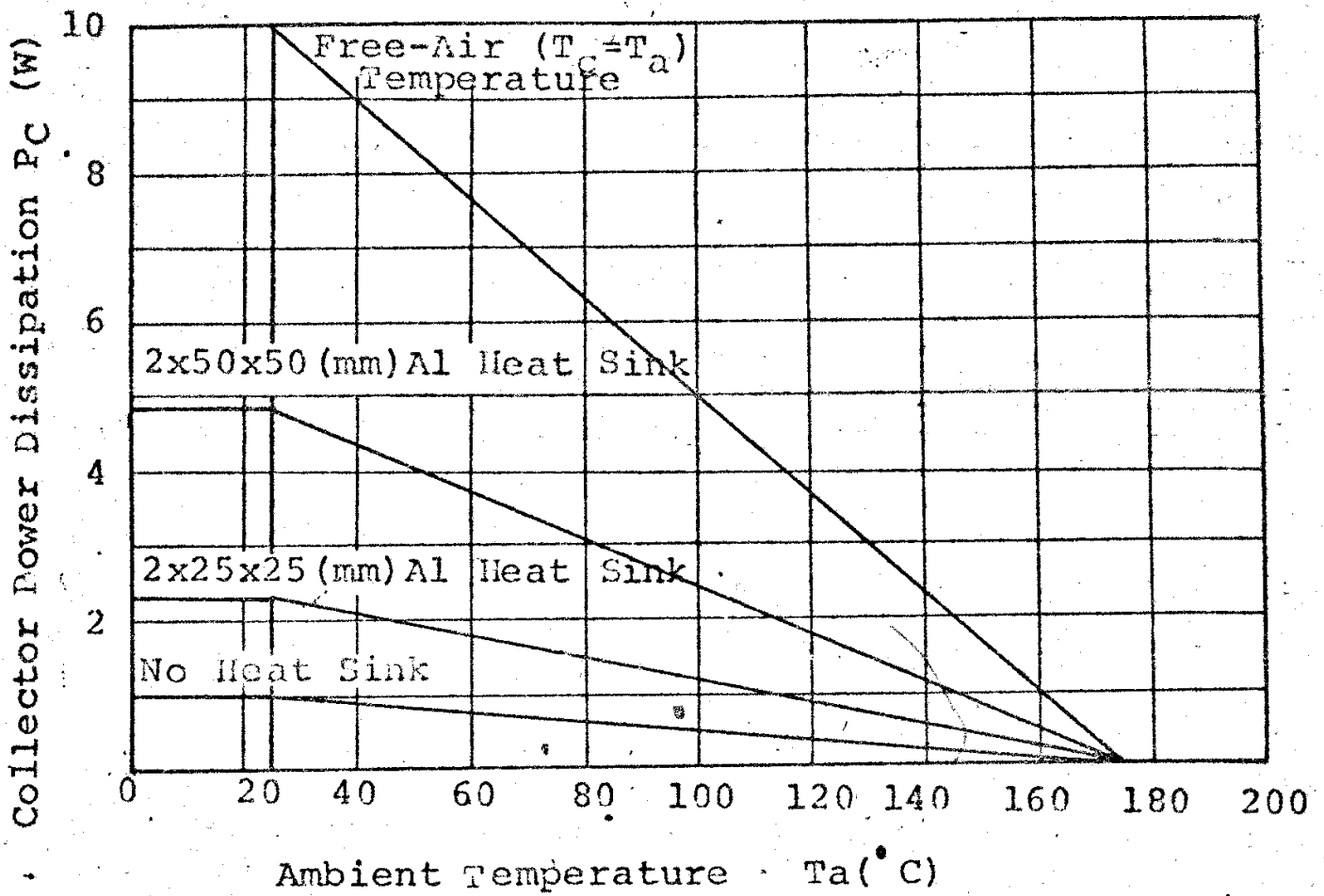
6. Item.

	$h_{FE}$ $I_C = 100mA$ $V_{CE} = 2V$	
	Min.	Max.
1	27	66
2	54	132
3	108	264

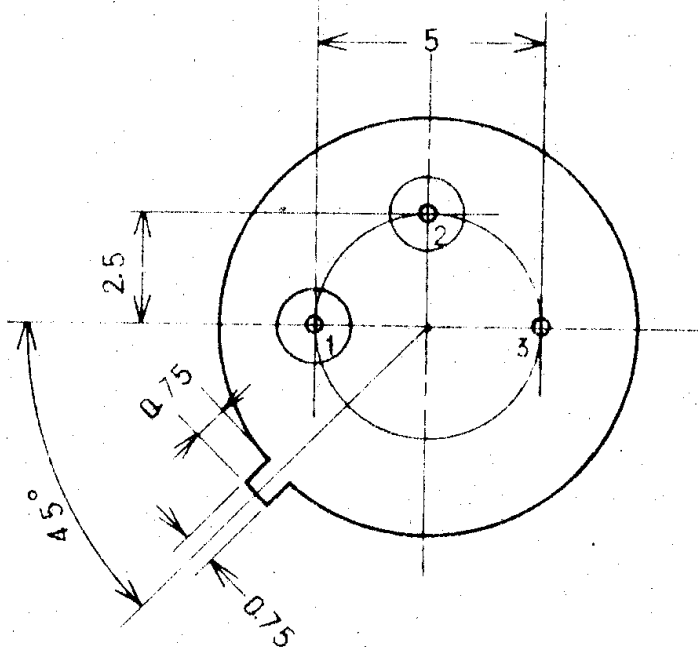
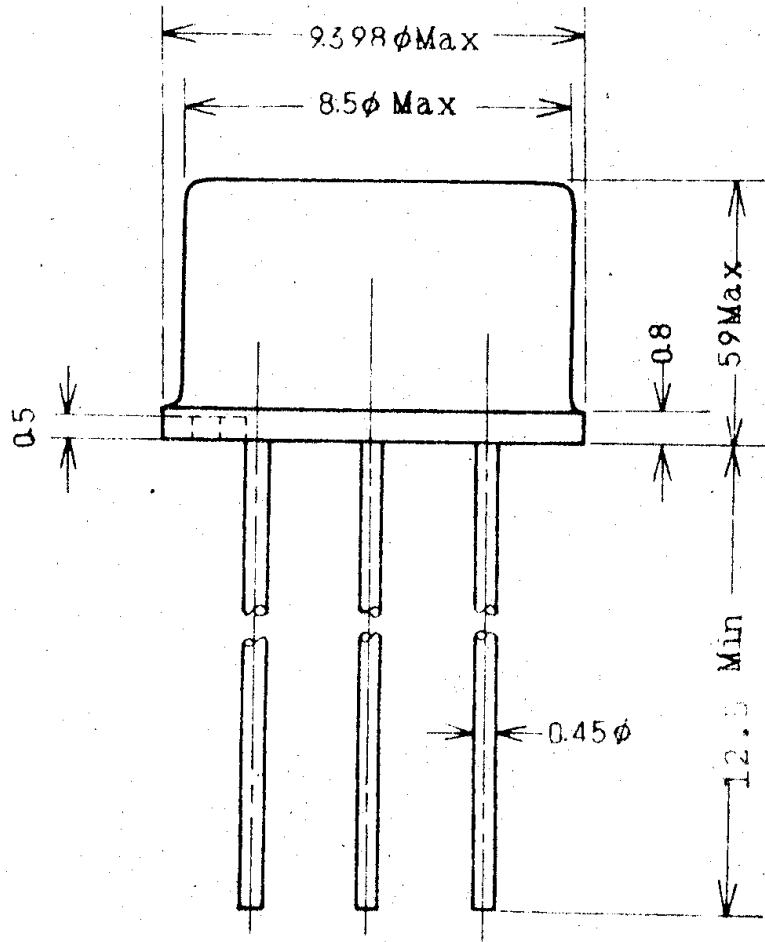
7. Test Circuit.



### 8. Collector Power Dissipation Deration Curves



9. Dimensional Outline.



- 1. Emitter
- 2. Base
- 3. Collector (Case)

Unit; mm