

SPECIFICATION TRANSISTORS,
DIODES

NO. 17 — T —

2SC1816

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Sony-2SC 1816 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-220 (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_{EBO}	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	12 W
Junction Temperature	T_j	150 $^\circ\text{C}$
Storage Temperature	T_{stg}	-65~+200 $^\circ\text{C}$

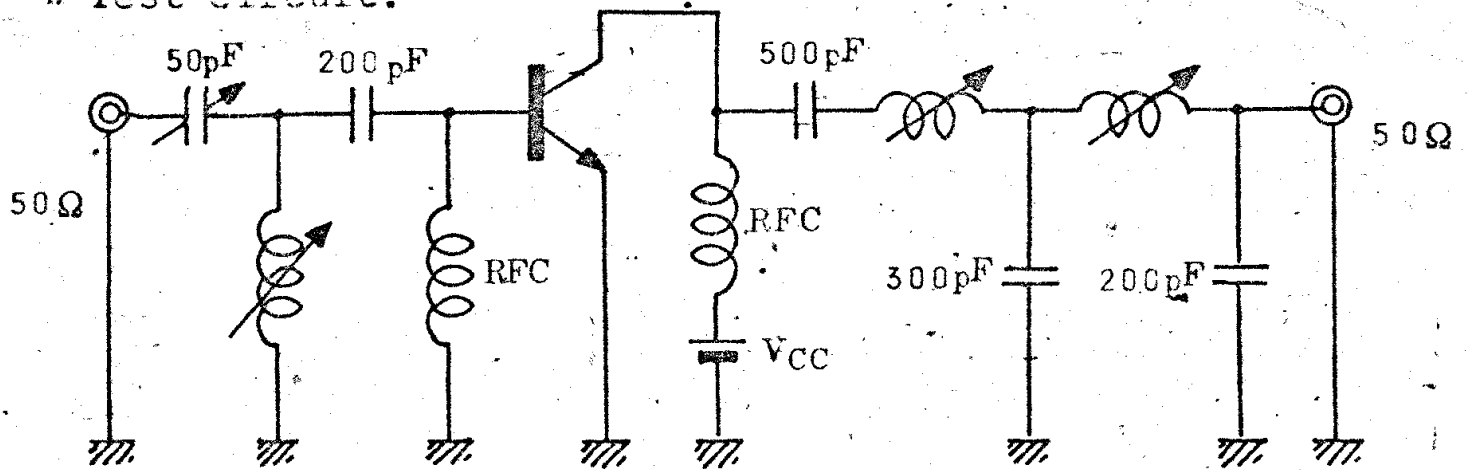
5. ELECTRICAL CHARACTERISTICS (Ta=25°C)

Characteristic	Symbol	Conditions	Min.	Typ.	Max.	Units
Collector-Cutoff Current:	I_{CB0}	$V_{CB}=50V, I_E=0$			1	μA
Emitter-Cutoff Current:	I_{EBO}	$V_{EB}=6V, I_C=0$			2	μA
Collector-to-Base Voltage:	V_{CBO}	$I_C=100\mu A$	100			V
Collector-to-Emitter Sustaining Voltage:	$V_{CE0(sus)}$	$I_C=10mA$	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:	$C_c \cdot r_{bb'}$	$V_{CB}=10V, I_E=0$ $f=31.9MHz$				pS
Transition Frequency:	f_T	$V_{CB}=10V, I_E=-100mA$	70	140		MHz
Power Output: (See 7. Test Circuit)	P_o	$P_i=0.4W, V_{CC} \approx 12V$ $f=27MHz$	4	6		W
Power Gain:	$P \cdot G$		10			dB

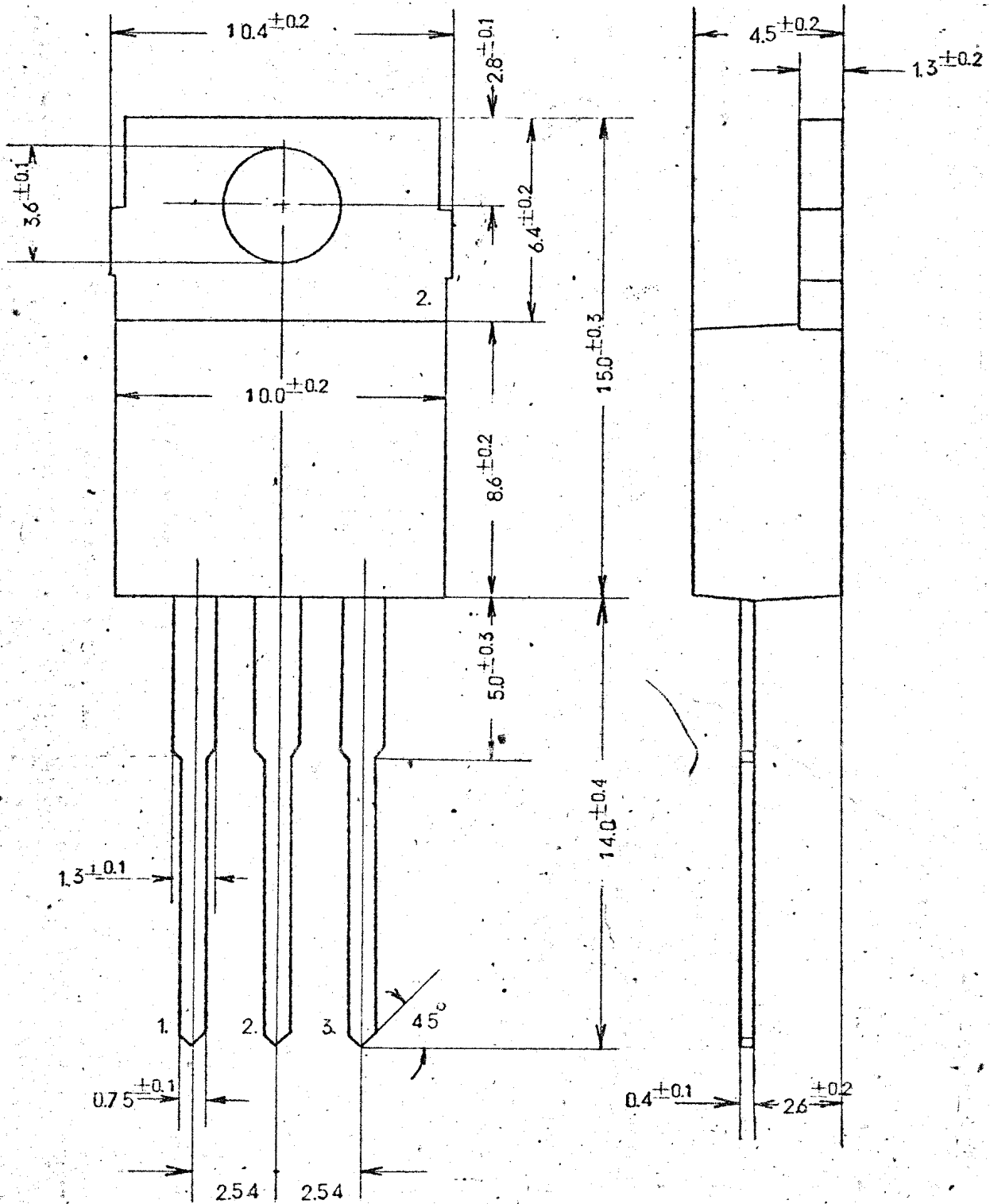
6. Item.

	hFE $I_C = 100 \mu A$ $V_{CE} = 2 V$	
	Min.	Max.
1	27	66
2	54	132
3	108	264

7. Test Circuit.



DIMENSIONAL OUTLINE



Dimensions in millimeters

Lead #1 - Base

Lead #2 - Collector (Flange)

Lead #3 - Emitter