MITSUBISHI ELECTRIC CORP.

| SPEC. SHEET | Drawn | M. Koyama | | A | | B | | C | |
|---|---|---|---|---|---|---|---|---|---|
| | Approved | K. Kurosaki Dec '85 | | | | | | | |

| | |
|---|---|
| Type No. | 2SC2312 |
| Application | RF POWER AMPLIFICATION |
| Structure | NPN Silicon Epitaxial Planar Type Transistor |
| Outline | Fig. 1 |

| Absolute max. ratings | $V_{CBO}$ | $V_{EBO}$ | $V_{CEO}$ | $I_C$ | $I_{\_\_}$ | $P_C$ | $P_{\_\_}$ | Tj | Tstg | $T_C$ |
|---|---|---|---|---|---|---|---|---|---|---|
| Condition | | | $R_{BE}=\infty$ | | | $T_C=25℃$ | $T_a=25℃$ | | | $25℃ \pm 3℃$ |
| Limits | 60 V | 5 V | 20 V | 6 A | ___ A | 25 W | ___ W | +150℃ | -55 ℃ +150℃ | |

| Parameter | Symbol | Conditions | Values MIN. | Values TYP. | Values MAX. | Unit | AQL (%) |
|---|---|---|---|---|---|---|---|
| Emitter to Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=5mA$ $I_C=0$ | 5 | | | V | 0.65 |
| Collector to Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=1mA$ $I_E=0$ | 60 | | | V | 0.65 |
| Collector to Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=10mA$ $R_{BE}=\infty$ | 20 | | | V | 0.65 |
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}=30V$ $I_E=0$ | | | 500 | μA | 0.65 |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}=4V$ $I_C=0$ | | | 100 | μA | 0.65 |
| DC Forward Current Transfer Ratio | $H_{FE}$ *1,2 | $V_{CE}=10V$ $I_C=1A$ | 35 | | 180 | — | 0.65 |
| Output Power | $P_O$ | Vcc=12V,f=27MHz,Pin=1.5W | 17 | 18.5 | | W | 0.65 |
| Collector Efficiency | $\eta_C$ | Same as above | 60 | 70 | | % | 0.65 |
| Load VSWR *3 | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Notes: 1. Pulsed test.

2. See Table 1. hFE Classification.

3. Open and short test at the output terminal of the test circuit when operated at Vcc=16V,f=27MHz,Po=20W.

Table 1. hFE Classification

| Item | hFE | Ident. |
|---|---|---|
| B | 35 - 70 | BB |
| C | 55 - 110 | CC |
| D | 90 - 180 | DD |

Fig.1 Outline Drawing.

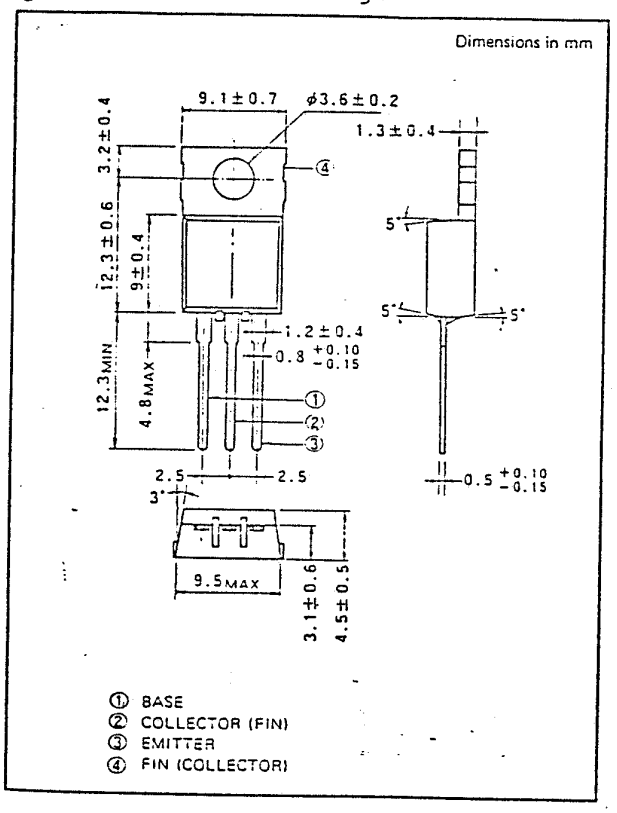
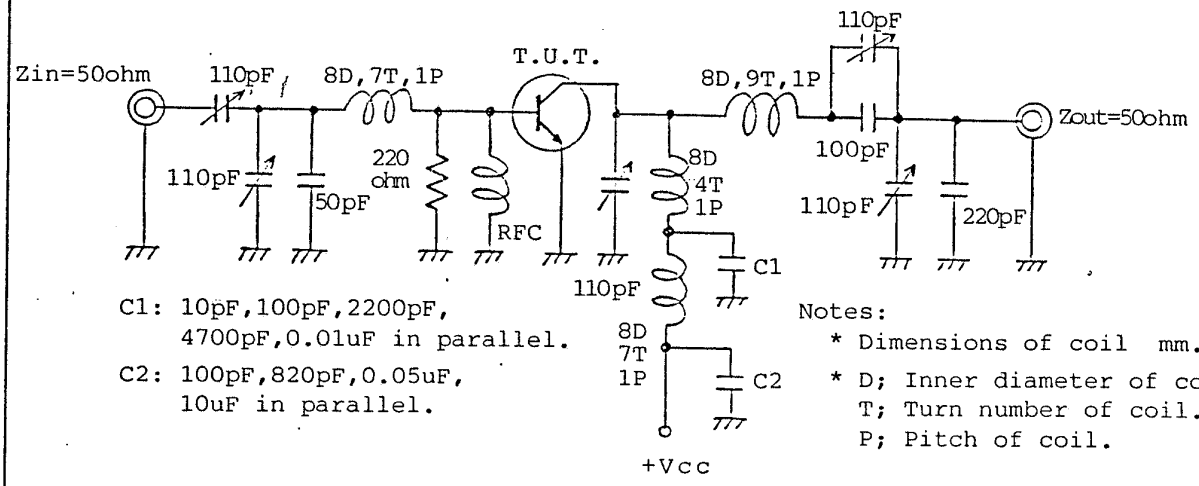



Fig.2 Test Circuit.




C1: 10pF,100pF,2200pF, 4700pF,0.01uF in parallel.

C2: 100pF,820pF,0.05uF, 10uF in parallel.

Notes:

* Dimensions of coil mm.
* D; Inner diameter of coil.
  T; Turn number of coil.
  P; Pitch of coil.