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| SANYO | No.513H | 2SB633/2SD613 |
| | | PNP/NPN Epitaxial Planar Silicon Transistors 85V/6A, AF 25 to 35W Output Applications |

Features

- High breakdown voltage $V_{CE0}85V$, high current 6A.
- AF25 to 35W output.

() : 2SB633

Absolute Maximum Ratings at $T_a = 25^\circ C$

| | | | unit |
|------------------------------|-----------|-------------|------------|
| Collector-to-Base Voltage | V_{CBO} | (-)100 | V |
| Collector-to-Emitter Voltage | V_{CEO} | (-)85 | V |
| Emitter-to-Base Voltage | V_{EBO} | (-)6 | V |
| Collector Current | I_C | (-)6 | A |
| Collector Current (Pulse) | I_{CP} | (-)10 | A |
| Collector Dissipation | P_C | 40 | W |
| Junction Temperature | T_j | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | -55 to +150 | $^\circ C$ |

$T_c = 25^\circ C$

Electrical Characteristics at $T_a = 25^\circ C$

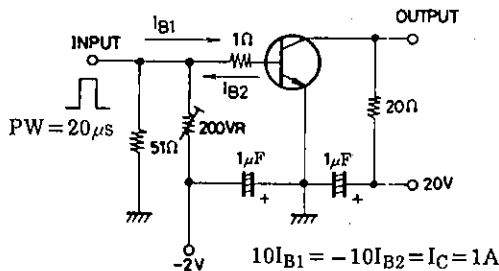
| | | | min | typ | max | unit |
|--------------------------|---------------|----------------------------------|------------|----------|--------|---------|
| Collector Cutoff Current | I_{CBO} | $V_{CB} = (-)40V, I_E = 0$ | | | (-)0.1 | mA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = (-)4V, I_C = 0$ | | | (-)0.1 | mA |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE} = (-)5V, I_C = (-)1A$ | 40* | | 320* | |
| | $h_{FE(2)}$ | $V_{CE} = (-)5V, I_C = (-)3A$ | 20 | | | |
| Gain-Bandwidth Product | f_T | $V_{CE} = (-)5V, I_C = (-)1A$ | | 15 | | MHz |
| C-E Saturation Voltage | $V_{CE(sat)}$ | $I_C = (-)4A, I_B = (-)0.4A$ | | | (-)2.0 | V |
| B-E Rise Voltage | V_{BE} | $V_{CE} = (-)5A, I_C = (-)1A$ | | | (-)1.5 | V |
| Output Capacitance | C_{ob} | $V_{CB} = (-)10V, f = 1MHz$ | | (150)110 | | pF |
| C-B Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = (-)5mA, I_E = 0$ | (-)100 | | | V |
| C-E Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = (-)5mA, R_{BE} = \infty$ | (-)85 | | | V |
| | $V_{(BR)CEO}$ | $I_C = (-)50mA, R_{BE} = \infty$ | (-)85 | | | V |
| E-B Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = (-)5mA, I_C = 0$ | (-)6 | | | V |
| Turn-ON Time | t_{on} | See specified Test Circuit. | (0.16)0.28 | | | μs |
| Fall Time | t_f | " | (0.33)0.50 | | | μs |
| Storage Time | t_{stg} | " | (1.45)3.60 | | | μs |

* : The 2SB633/2SD613 are classified by 1A h_{FE} as follows.

| | | | | | | | | | | | |
|----|---|----|----|---|-----|-----|---|-----|-----|---|-----|
| 40 | C | 80 | 60 | D | 120 | 100 | E | 200 | 160 | F | 320 |
|----|---|----|----|---|-----|-----|---|-----|-----|---|-----|

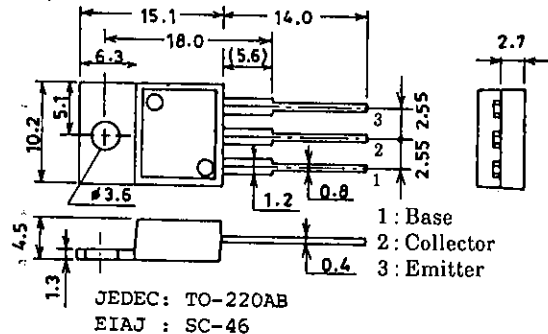
Switching Time Test Circuit

(For PNP, the polarity is reversed.)

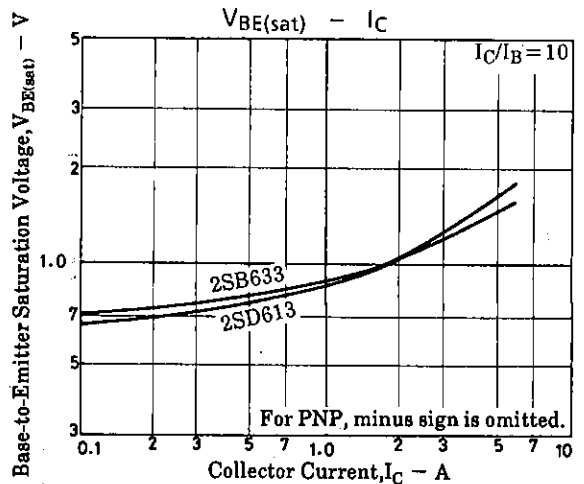
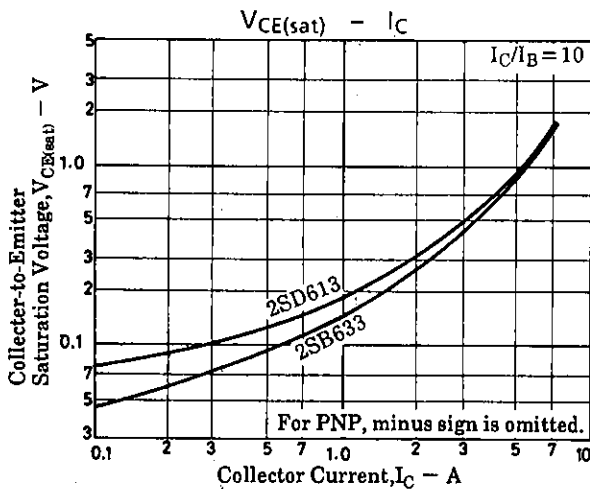
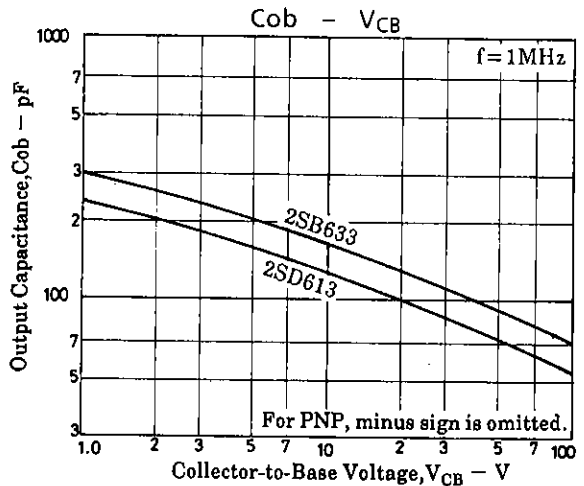
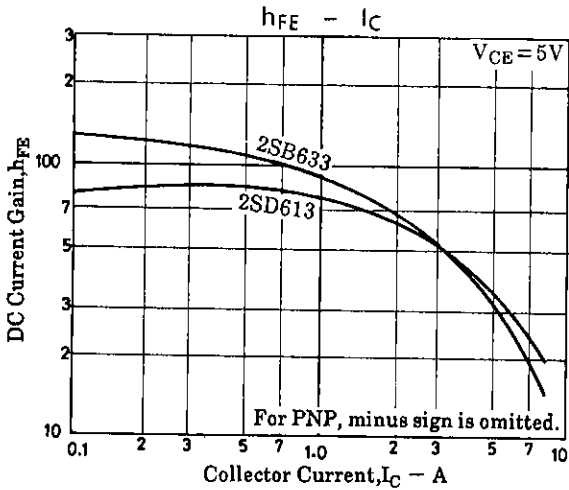
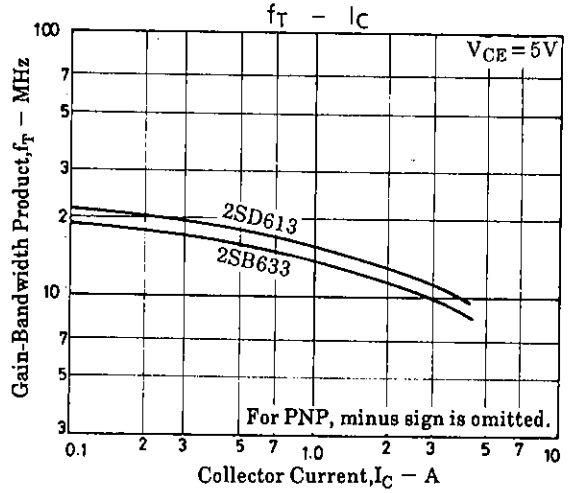
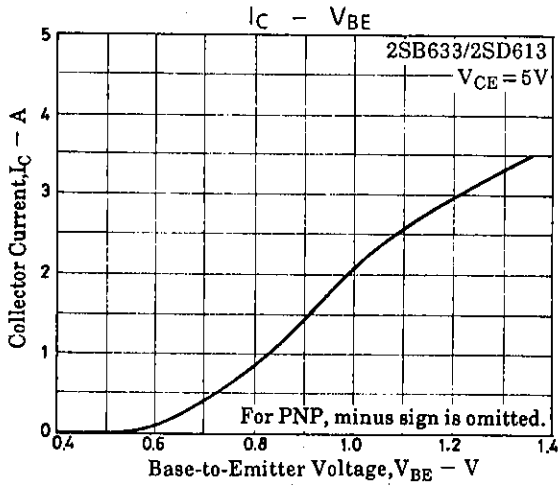
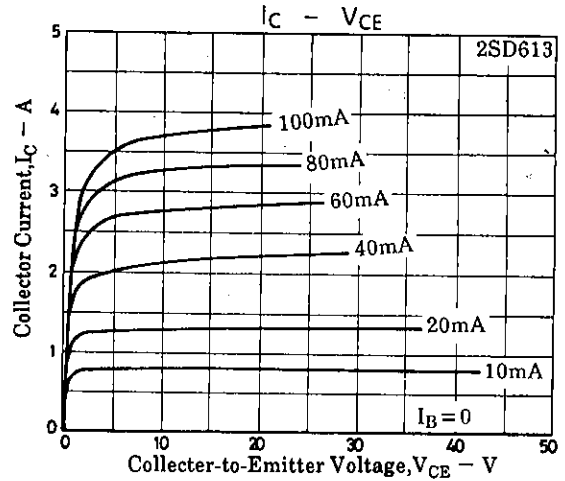
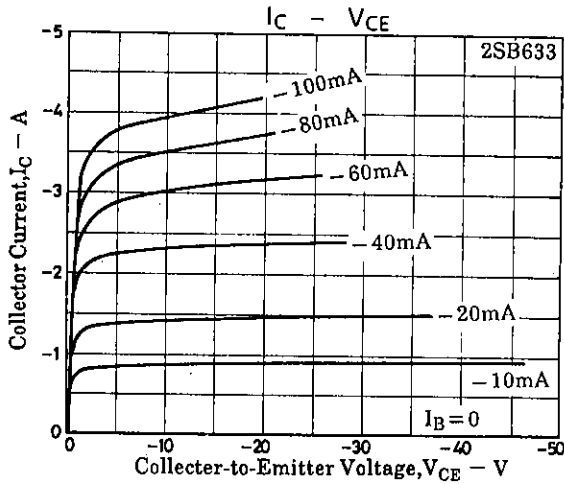


Package Dimensions 2010C

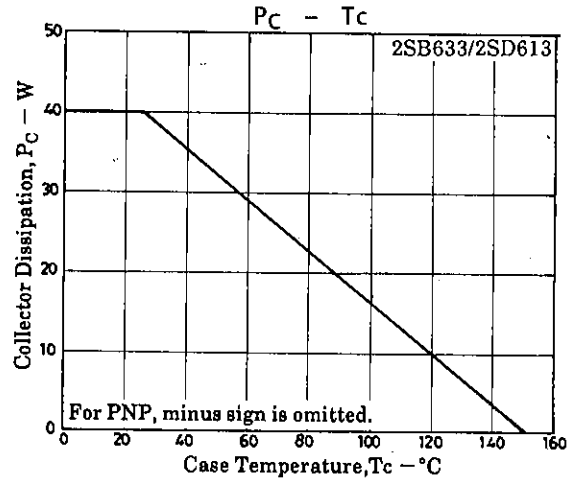
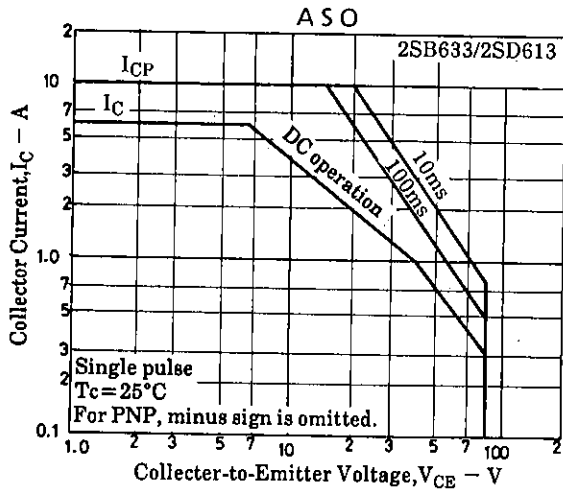
(unit : mm)



2SB633/2SD613



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