

## Features

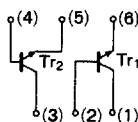
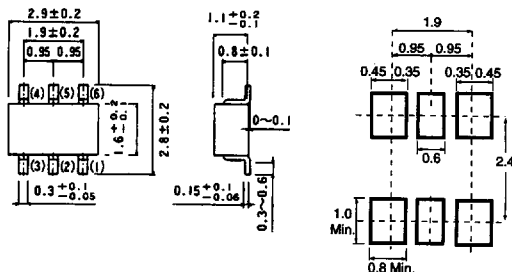
- available in SMT6 (IMD, SC-74) package
- package marking: X6
- package contains two independent NPN transistors (2SC2413K)
- same size as UMT3 (UMT, SC-70) so same placement machine can be used for both
- no mutual interference between the transistors

## Applications

- small signal amplifier

## Dimensions (Units : mm)

IMX6 (SMT6)



- (1) Tr1 collector
- (2) Tr1 base
- (3) Tr2 collector
- (4) Tr2 base
- (5) Tr2 emitter
- (6) Tr1 emitter

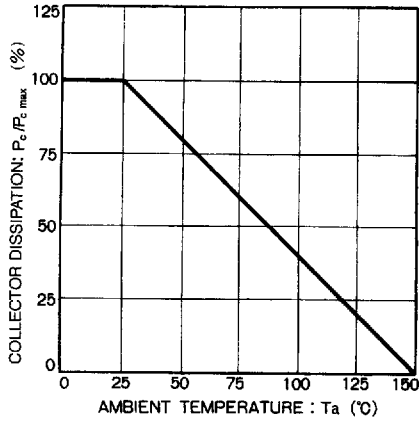
**IMX6** Transistor, dual, 6-pin package**Absolute maximum ratings ( $T_a = 25^\circ\text{C}$ , common for  $\text{Tr}_1$  and  $\text{Tr}_2$ )**

| Parameter                    | Symbol           | Limits          | Unit             | Conditions                       |
|------------------------------|------------------|-----------------|------------------|----------------------------------|
| Collector-to-base voltage    | $V_{\text{CBO}}$ | 40              | V                |                                  |
| Collector-to-emitter voltage | $V_{\text{CEO}}$ | 25              | V                |                                  |
| Emitter-to-base voltage      | $V_{\text{EBO}}$ | 5               | V                |                                  |
| Collector current            | $I_{\text{C}}$   | 50              | mA               |                                  |
| Collector dissipation        | $P_{\text{C}}$   | 300             | mW               | Do not exceed 200 mW per element |
| Junction temperature         | $T_{\text{j}}$   | 150             | $^\circ\text{C}$ |                                  |
| Storage temperature          | $T_{\text{stg}}$ | $-55 \sim +150$ | $^\circ\text{C}$ |                                  |

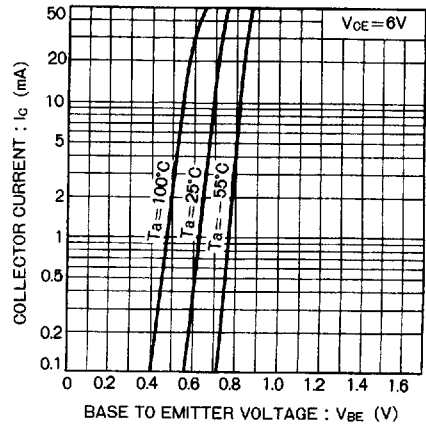
**Electrical characteristics (unless otherwise noted,  $T_a = 25^\circ\text{C}$ , common for  $\text{Tr}_1$  and  $\text{Tr}_2$ )**

| Parameter                               | Symbol               | Min | Typical | Max | Unit          | Conditions                                                                         |
|-----------------------------------------|----------------------|-----|---------|-----|---------------|------------------------------------------------------------------------------------|
| Collector-to-base breakdown voltage     | $BV_{\text{CBO}}$    | 40  |         |     | V             | $I_{\text{C}} = 50 \mu\text{A}$                                                    |
| Collector-to-emitter breakdown voltage  | $BV_{\text{CEO}}$    | 25  |         |     | V             | $I_{\text{C}} = 1 \text{ mA}$                                                      |
| Emitter-to-base breakdown voltage       | $BV_{\text{EBO}}$    | 5   |         |     | V             | $I_{\text{E}} = 50 \mu\text{A}$                                                    |
| Collector cutoff current                | $I_{\text{CBO}}$     |     |         | 0.5 | $\mu\text{A}$ | $V_{\text{CB}} = 24 \text{ V}$                                                     |
| Emitter cutoff current                  | $I_{\text{EBO}}$     |     |         | 0.5 | $\mu\text{A}$ | $V_{\text{EB}} = 3 \text{ V}$                                                      |
| DC current gain                         | $h_{\text{FE}}$      | 56  |         |     |               | $V_{\text{CE}} = 6 \text{ V}$ , $I_{\text{C}} = 1 \text{ mA}$                      |
| Collector-to-emitter saturation voltage | $V_{\text{CE(sat)}}$ |     | 0.1     |     | V             | $I_{\text{C}}/I_{\text{B}} = 10 \text{ mA}/1 \text{ mA}$                           |
| Gain bandwidth                          | $f_{\text{T}}$       | 150 | 300     |     | MHz           | $V_{\text{CE}} = 6 \text{ V}$ , $I_{\text{C}} = 1 \text{ mA}$                      |
| Output capacitance                      | $C_{\text{ob}}$      |     | 1.3     | 2.5 | pF            | $V_{\text{CB}} = 6 \text{ V}$ , $f = 1 \text{ MHz}$ , $I_{\text{E}} = 0 \text{ A}$ |

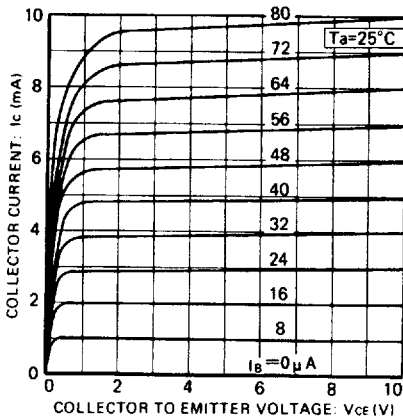
# Electrical characteristic curves



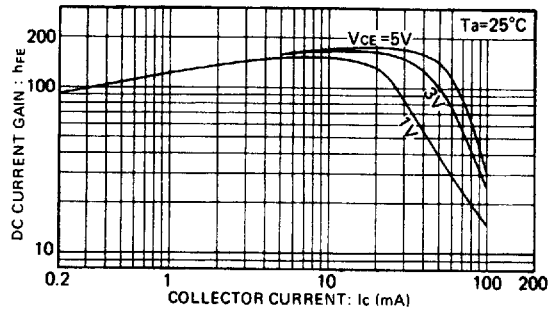
**Figure 1**



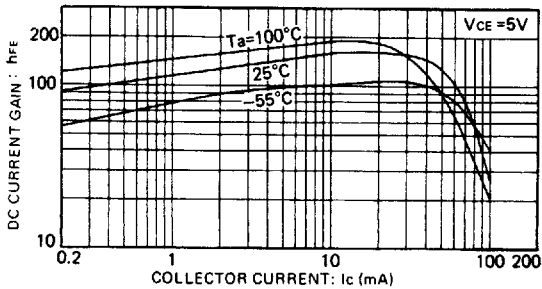
**Figure 2**



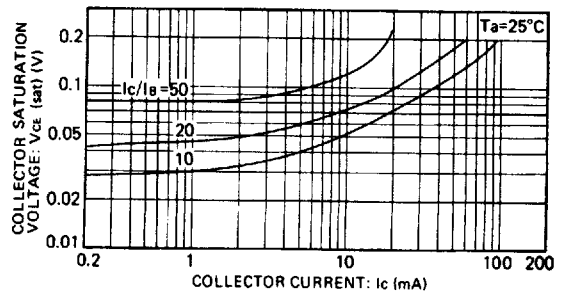
**Figure 3**



**Figure 4**



**Figure 5**



**Figure 6**

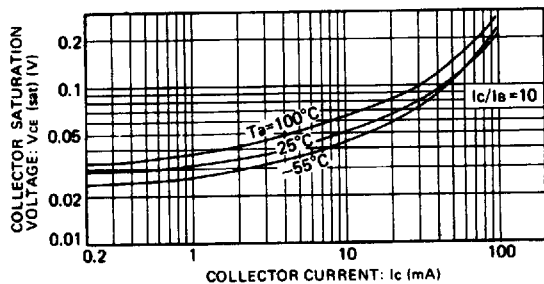


Figure 7

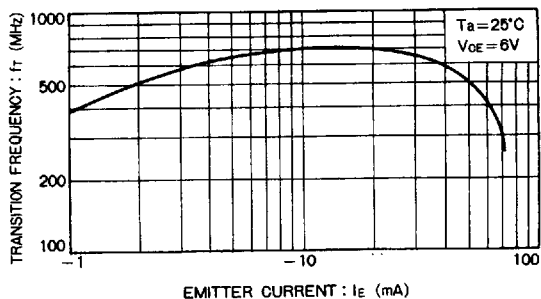


Figure 8

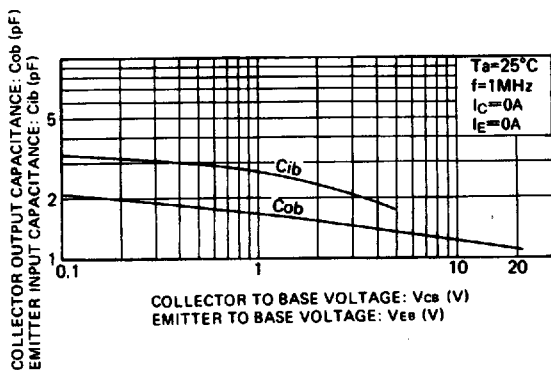


Figure 9

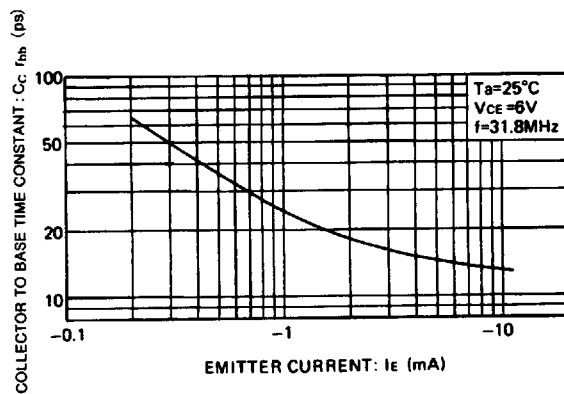


Figure 10

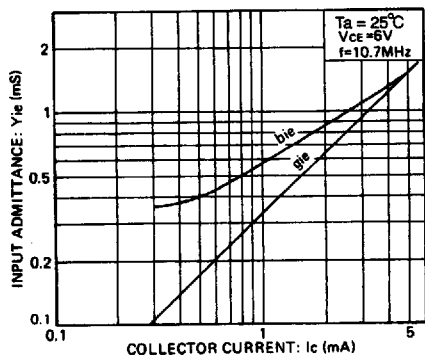


Figure 11

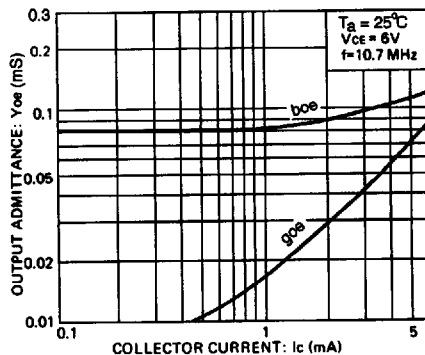


Figure 12

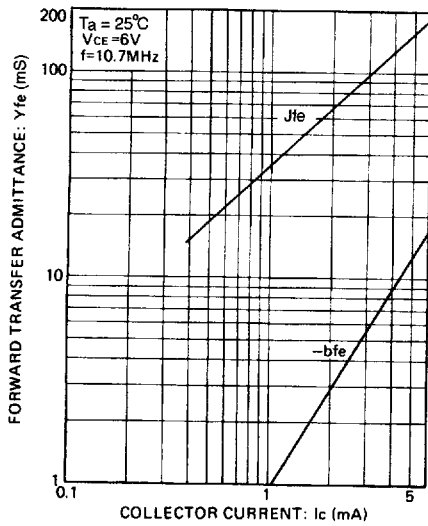


Figure 13

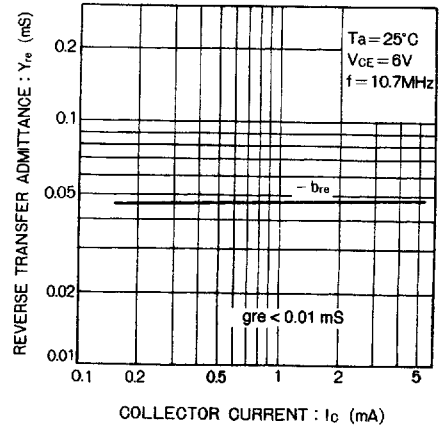


Figure 14

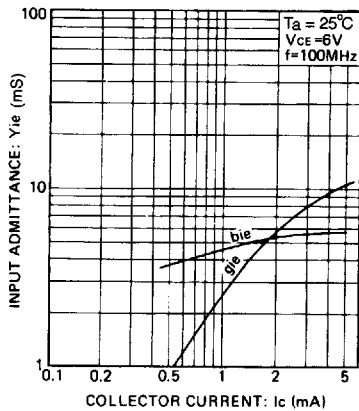


Figure 15

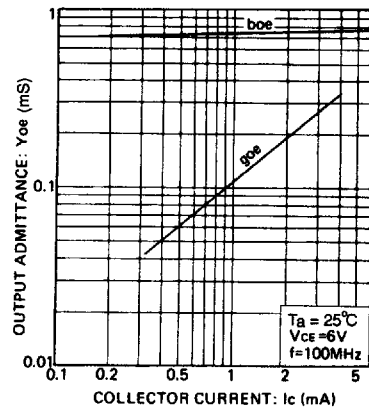
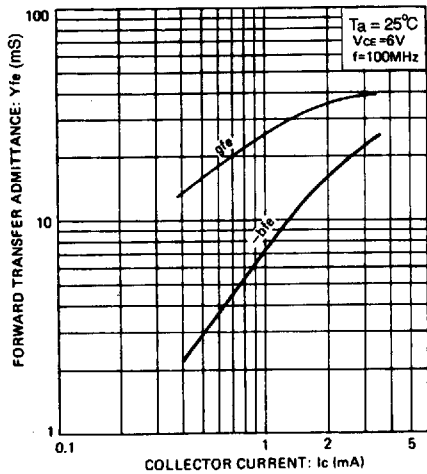
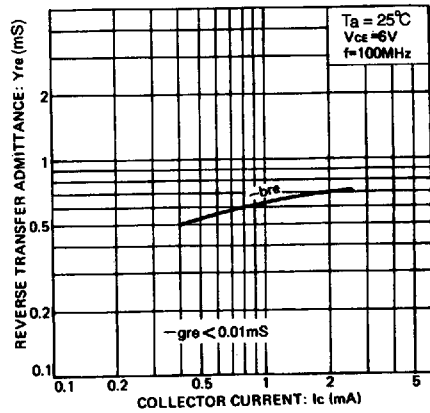


Figure 16

**IMX6** Transistor, dual, 6-pin package



**Figure 17**



**Figure 18**

**Ordering information**

|                                                    |      |
|----------------------------------------------------|------|
| Package                                            | Tape |
| Code                                               | T108 |
| Basic order quantity                               | 3000 |
| IMX6                                               | ☆    |
| ★ = Standard, ☆ = Semi-standard, * = Special order |      |