

# 2SC3853

**Silicon NPN Triple Diffused Planar**  
 ☆ Complement to type 2SA1489

T-33-11

**Application Example :** ● Outline Drawing 2.....MT-100(TO3P)  
 Audio and General Purpose

**Absolute Maximum Ratings (Ta=25°C)**

Symbol	2SC3853	Unit
V <sub>CB0</sub>	120	V
V <sub>CE0</sub>	80	V
V <sub>EB0</sub>	6	V
I <sub>C</sub>	6	A
I <sub>B</sub>	3	A
P <sub>C</sub>	60 (T <sub>C</sub> = 25°C)	W
T <sub>J</sub>	150	°C
T <sub>stg</sub>	-55~+150	°C

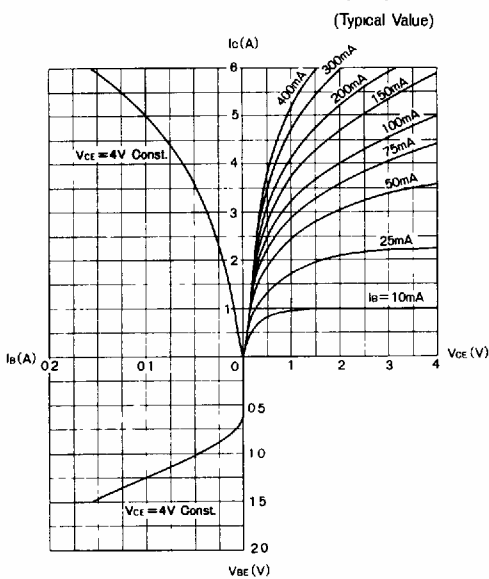
**Electrical Characteristics (Ta=25°C)**

Symbol	Conditions	2SC3853	Unit
I <sub>CB0</sub>	V <sub>CB</sub> =120V	100max	μA
I <sub>EB0</sub>	V <sub>EB</sub> =6V	100max	μA
V <sub>(BR)CEO</sub>	I <sub>C</sub> = 50mA	80min	V
h <sub>FE</sub>	V <sub>CE</sub> =4V, I <sub>C</sub> =2A	50min	
V <sub>CE(sat)</sub>	I <sub>C</sub> = 2A, I <sub>B</sub> =0.2A	1.5max	V
f <sub>T</sub>	V <sub>CE</sub> =12V, I <sub>E</sub> =-0.5A	20typ	MHz

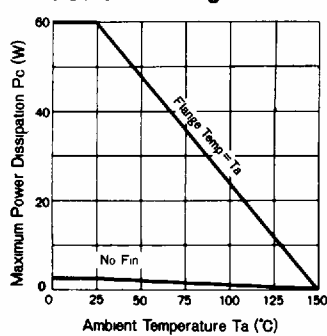
**Typical Switching Characteristics (Common Emitter)**

V <sub>CC</sub> (V)	R <sub>L</sub> (Ω)	I <sub>C</sub> (A)	V <sub>BE1</sub> (V)	V <sub>BE2</sub> (V)	I <sub>B1</sub> (A)	I <sub>B2</sub> (A)	t <sub>on</sub> (μs)	t <sub>stg</sub> (μs)	t <sub>r</sub> (μs)
30	10	3	10	-5	0.3	-0.3	0.5typ	2.5typ	0.6typ

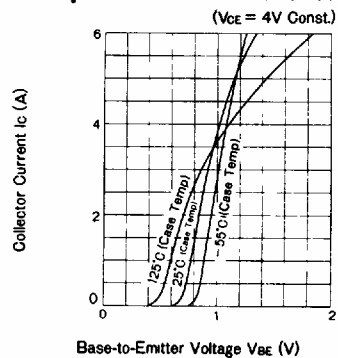
**Common Emitter Characteristics**



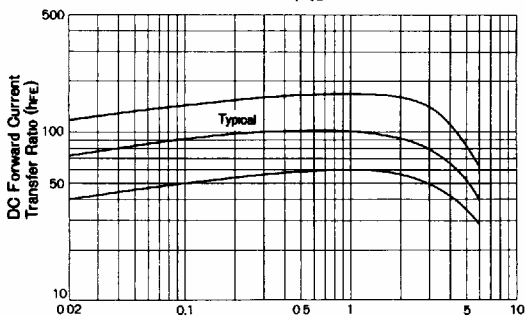
**Power Derating**



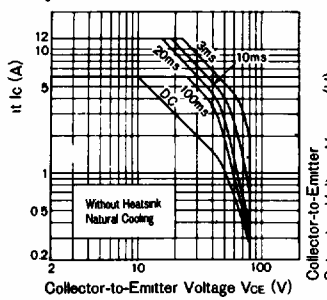
**Temperature Characteristics**



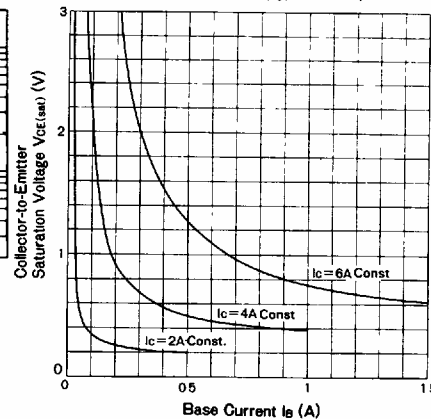
**DC Current Gain Characteristics (Vce = 4V Const.)**



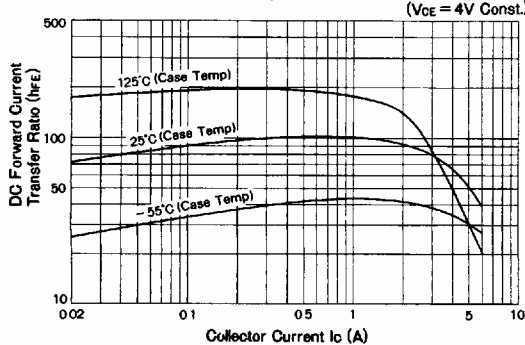
**Maximum Areas For Safe Operation (ASO) (Single Pulse)**



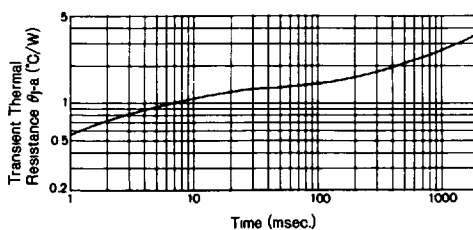
**VCE(sat) - I<sub>B</sub> Characteristics (Typical Value)**



**DC Current Gain Temperature Characteristics (Vce = 4V Const.)**



**Transient Thermal Resistance Characteristics**



# Outline Drawings/Accessories

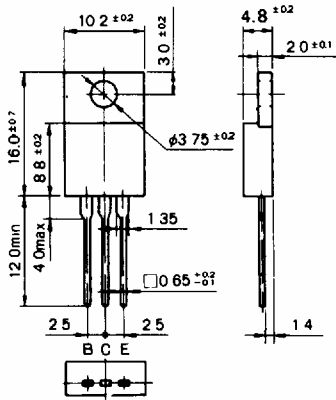
T-91-20

## Outline Drawing

- Nonflammability: UL94V-0 or equivalent
- Unit: in mm

### Outline Drawing 1

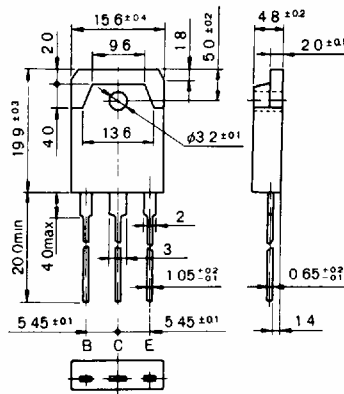
MT-25(TO220)



Weight: Approx. 2.6 g

### Outline Drawing 2

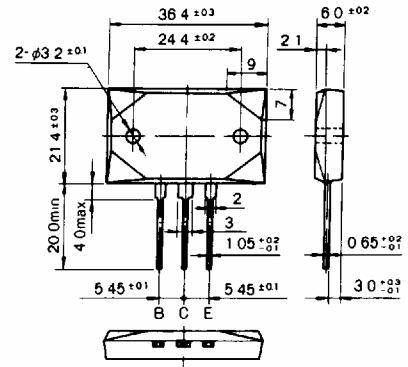
MT-100(TO3P)



Weight: Approx. 6.0 g

### Outline Drawing 3

MT-200

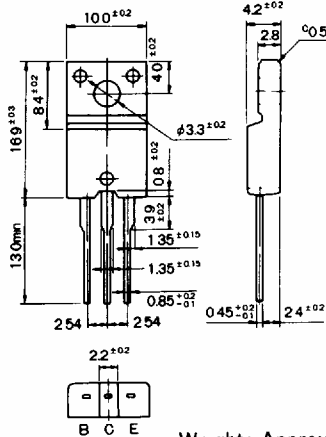


Weight: Approx. 18.4 g

### Outline Drawing 4

FM20

(Full Mold)

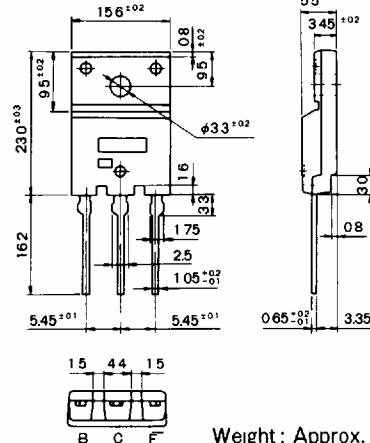


Weight: Approx. 2.0 g

### Outline Drawing 5

FM100

(Full Mold)



Weight: Approx. 6.5 g

## Accessories

☆ Sanken Transistors do not include accessories. Accessories may be attached at a cost if requested.

☆ Sanken transistor case is a standard size, and can replace any generally sold product.

- Heatsink: Mica, with a thickness of 0.06 mm,  $+0.045 -0.005$  allowance

- Insulation Bush for MT-25 (TO220)

Type Name: Molded (10) Mica

Type Name: Molded (14) Mica

Type Name: Molded (9) Mica

