

# 2SC4381/4382

Silicon NPN Triple Diffused Planar Transistor (Complement to type 2SA1667/1668) Application : TV Vertical Output, Audio Output Driver and General Purpose

**Absolute maximum ratings** (Ta=25°C)

Symbol	Ratings		Unit
	2SC4381	2SC4382	
V <sub>CB0</sub>	150	200	V
V <sub>CE0</sub>	150	200	V
V <sub>EBO</sub>	6		V
I <sub>C</sub>	2		A
I <sub>B</sub>	1		A
P <sub>C</sub>	25(T <sub>C</sub> =25°C)		W
T <sub>J</sub>	150		°C
T <sub>stg</sub>	-55 to +150		°C

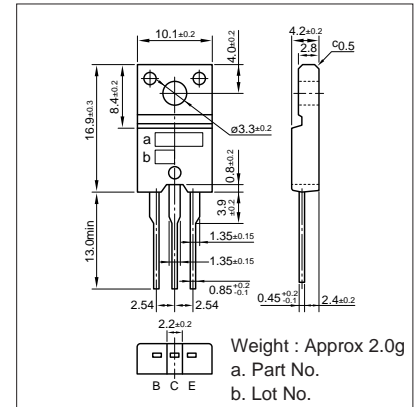
**Electrical Characteristics** (Ta=25°C)

Symbol	Conditions	Ratings		Unit
		2SC4381	2SC4382	
I <sub>CB0</sub>	V <sub>CB</sub> =	150	200	μA
I <sub>EBO</sub>	V <sub>EB</sub> =6V	10max		μA
V <sub>(BR)CEO</sub>	I <sub>C</sub> =25mA	150min	200min	V
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.7A	60min		
V <sub>CE(sat)</sub>	I <sub>C</sub> =0.7A, I <sub>B</sub> =0.07A	1.0max		V
f <sub>T</sub>	V <sub>CE</sub> =12V, I <sub>E</sub> =-0.2A	15typ		MHz
COB	V <sub>CB</sub> =10V, f=1MHz	35typ		pF

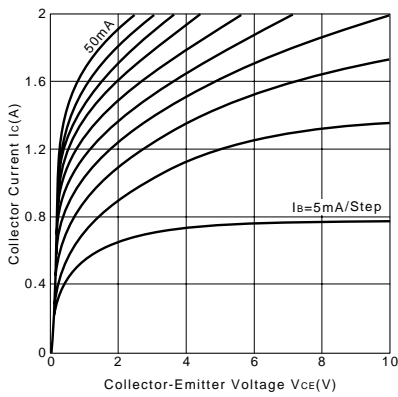
**Typical Switching Characteristics (Common Emitter)**

V <sub>CC</sub> (V)	R <sub>L</sub> (Ω)	I <sub>C</sub> (A)	V <sub>BB1</sub> (V)	V <sub>BB2</sub> (V)	I <sub>B1</sub> (mA)	I <sub>B2</sub> (mA)	t <sub>on</sub> (μs)	t <sub>stg</sub> (μs)	t <sub>f</sub> (μs)
20	20	1	10	-5	100	-100	1.0typ	3.0typ	1.5typ

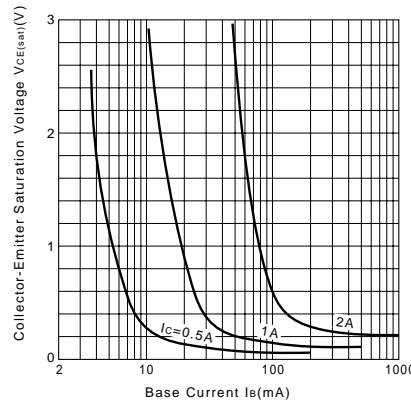
**External Dimensions FM20(TO220F)**



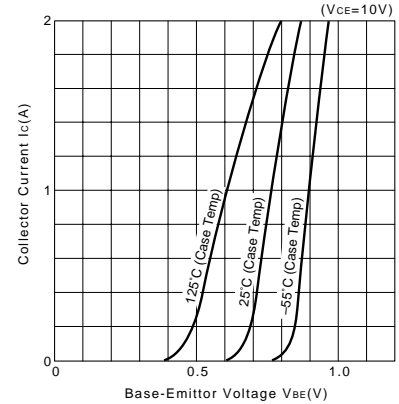
**I<sub>C</sub>-V<sub>CE</sub> Characteristics (Typical)**



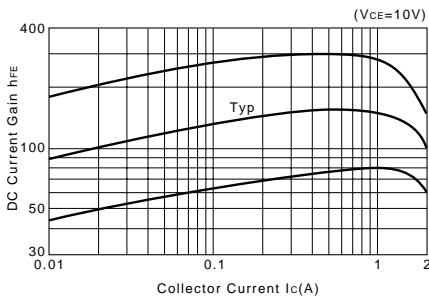
**V<sub>CE(sat)</sub>-I<sub>B</sub> Characteristics (Typical)**



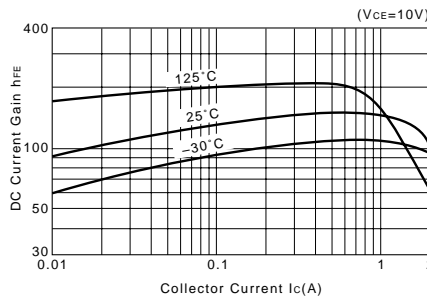
**I<sub>C</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)**



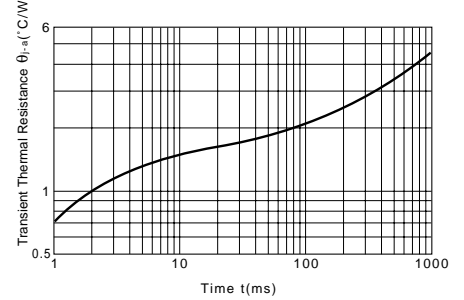
**h<sub>FE</sub>-I<sub>C</sub> Characteristics (Typical)**



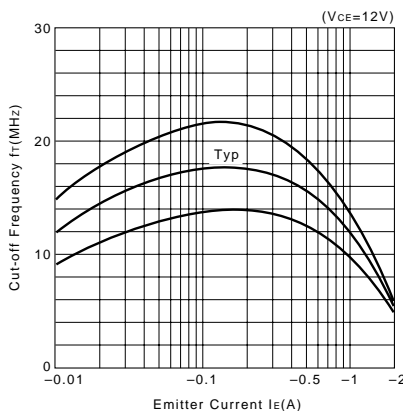
**h<sub>FE</sub>-I<sub>C</sub> Temperature Characteristics (Typical)**



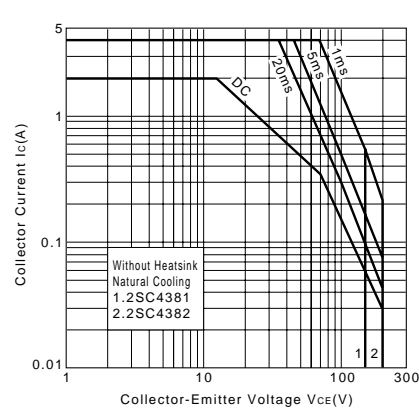
**θ<sub>j-a</sub>-t Characteristics**



**f<sub>T</sub>-I<sub>E</sub> Characteristics (Typical)**



**Safe Operating Area (Single Pulse)**



**P<sub>C</sub>-T<sub>a</sub> Derating**

