

**Silicon NPN Triple Diffused Planar Transistor**

**Application : Igniter, Relay and General Purpose**

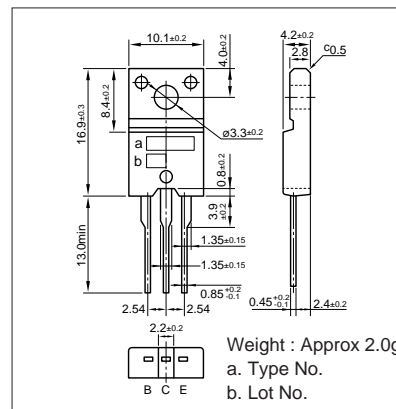
**Absolute maximum ratings (Ta=25°C)**

Symbol	2SD2016	Unit
V <sub>CB0</sub>	200	V
V <sub>CE0</sub>	200	V
V <sub>EB0</sub>	6	V
I <sub>C</sub>	3	A
I <sub>B</sub>	0.5	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

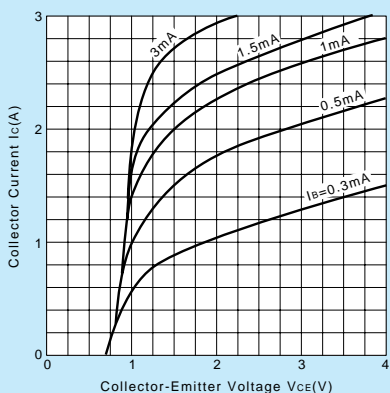
**Electrical Characteristics (Ta=25°C)**

Symbol	Conditions	2SD2016	Unit
I <sub>CB0</sub>	V <sub>CB</sub> =200V	10max	μA
I <sub>EB0</sub>	V <sub>EB</sub> =6V	10max	mA
V <sub>(BR)CEO</sub>	I <sub>C</sub> =10mA	200min	V
h <sub>FE</sub>	V <sub>CE</sub> =4V, I <sub>C</sub> =1A	1000 to 15000	
V <sub>CE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =1.5mA	1.5max	V
V <sub>BE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =1.5mA	2.0max	V
f <sub>T</sub>	V <sub>CE</sub> =12V, I <sub>E</sub> =-0.1A	90typ	MHz
COB	V <sub>CB</sub> =10V, f=1MHz	40typ	pF

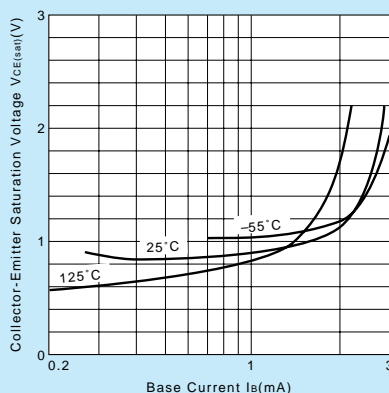
**External Dimensions FM20(TO220F)**



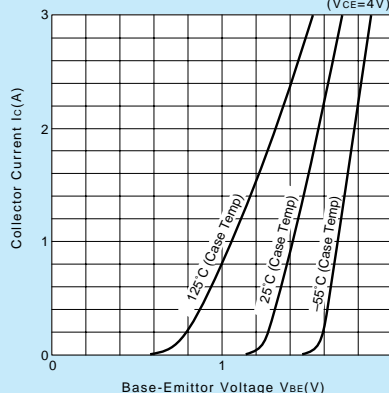
**I<sub>C</sub>-V<sub>CE</sub> Characteristics (Typical)**



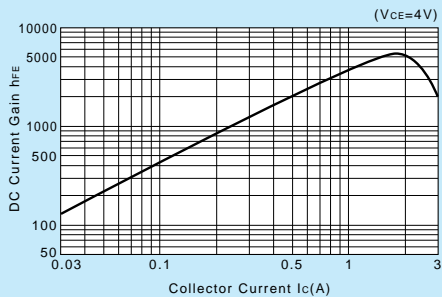
**V<sub>CE(sat)</sub>-I<sub>B</sub> Characteristics (Typical)**



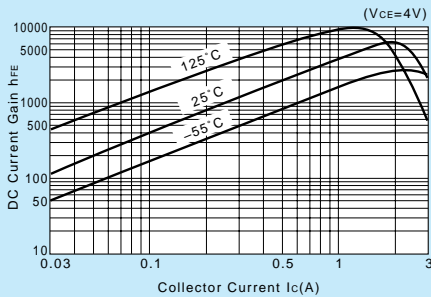
**I<sub>C</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)**



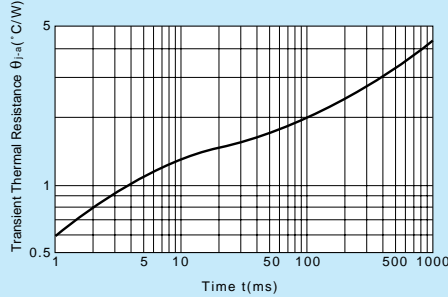
**h<sub>FE</sub>-I<sub>C</sub> Characteristics (Typical)**



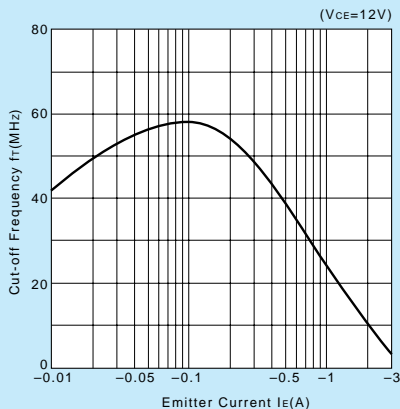
**h<sub>FE</sub>-I<sub>C</sub> Temperature Characteristics (Typical)**



**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**

