

2SC5333

Silicon NPN Triple Diffused Planar Transistor

Application : Series Regulator, Switch, and General Purpose

■Absolute maximum ratings ($T_a=25^\circ\text{C}$)

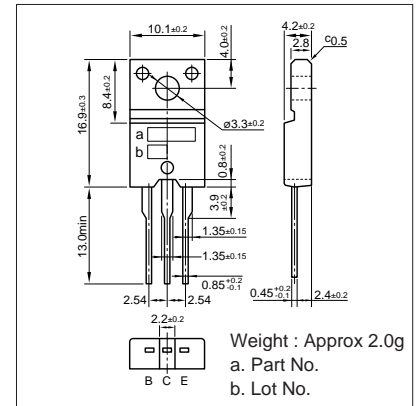
Symbol	Ratings	Unit
V_{CB0}	300	V
V_{CE0}	300	V
V_{EB0}	6	V
I_C	2	A
I_B	0.2	A
P_C	35($T_c=25^\circ\text{C}$)	W
T_j	150	$^\circ\text{C}$
T_{stg}	-55to+150	$^\circ\text{C}$

■Electrical Characteristics

($T_a=25^\circ\text{C}$)

Symbol	Conditions	Ratings	Unit
I_{CBO}	$V_{CB}=300\text{V}$	1.0max	mA
I_{EBO}	$V_{EB}=6\text{V}$	1.0max	mA
$V_{(BR)CEO}$	$I_C=25\text{mA}$	300min	V
h_{FE}	$V_{CE}=4\text{V}$, $I_C=0.5\text{A}$	30min	
$V_{CE(sat)}$	$I_C=1.0\text{A}$, $I_B=0.2\text{A}$	1.0max	V
f_T	$V_{CE}=12\text{V}$, $I_E=-0.2\text{A}$	10typ	MHz
COB	$V_{CB}=10\text{V}$, $f=1\text{MHz}$	75typ	pF

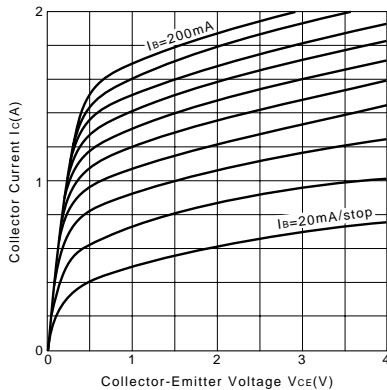
External Dimensions FM20(TO220F)



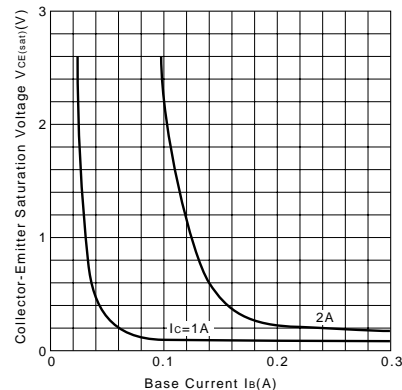
■Typical Switching Characteristics (Common Emitter)

V_{CC} (V)	R_L (Ω)	I_C (A)	V_{B2} (V)	I_{B1} (A)	I_{B2} (A)	t_{on} (μs)	t_{stg} (μs)	t_f (μs)
100	100	1.0	-5	0.1	-0.2	0.3typ	4.0typ	1.0typ

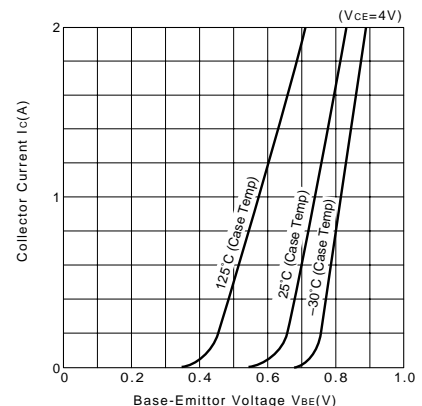
I_C-V_{CE} Characteristics (Typical)



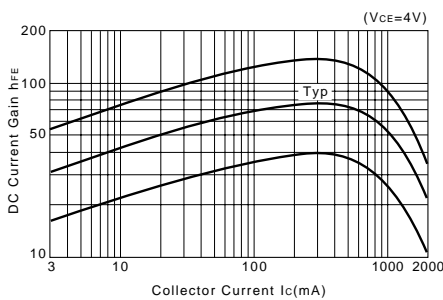
$V_{CE(sat)}-I_B$ Characteristics (Typical)



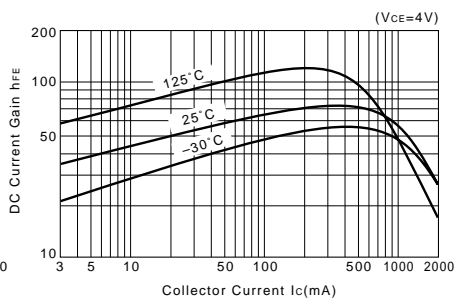
I_C-V_{BE} Temperature Characteristics (Typical)



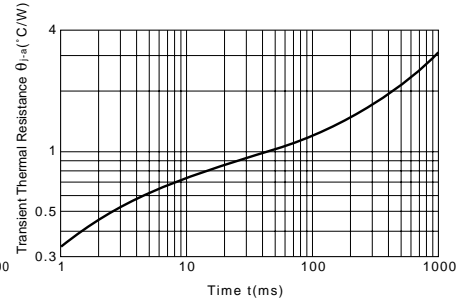
$h_{FE}-I_C$ Characteristics (Typical)



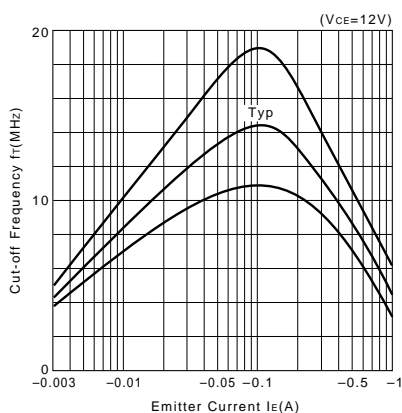
$h_{FE}-I_C$ Temperature Characteristics (Typical)



$\theta_{JA}-t$ Characteristics



f_T-I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)

P_C-T_a Derating

