

High h_{FE}
LOW $V_{CE(sat)}$

2SC4024

Silicon NPN Epitaxial Planar Transistor

Application : DC-DC Converter, Emergency Lighting Inverter and General Purpose

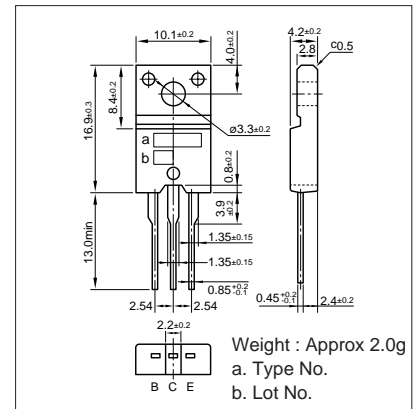
Absolute maximum ratings ($T_a=25^\circ\text{C}$)

Symbol	2SC4024	Unit
V_{CBO}	100	V
V_{CEO}	50	V
V_{EBO}	15	V
I_C	10	A
I_B	3	A
P_C	35($T_C=25^\circ\text{C}$)	W
T_J	150	$^\circ\text{C}$
T_{stg}	-55 to +150	$^\circ\text{C}$

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

Symbol	Conditions	2SC4024	Unit
I_{CBO}	$V_{CB}=100\text{V}$	10max	μA
I_{EBO}	$V_{EB}=15\text{V}$	10max	μA
$V_{(BR)CEO}$	$I_C=25\text{mA}$	50min	V
h_{FE}	$V_{CE}=4\text{V}, I_C=1\text{A}$	300 to 1600	
$V_{CE(sat)}$	$I_C=5\text{A}, I_B=0.1\text{A}$	0.5max	V
f_r	$V_{CE}=12\text{V}, I_E=-0.5\text{A}$	24typ	MHz
COB	$V_{CB}=10\text{V}, f=1\text{MHz}$	150typ	pF

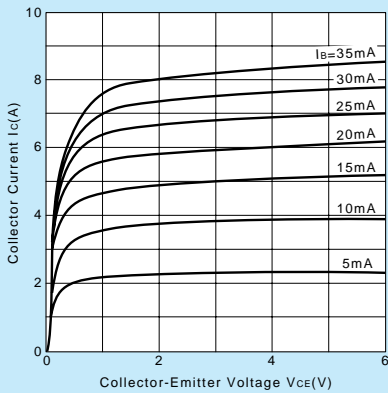
External Dimensions FM20(TO220F)



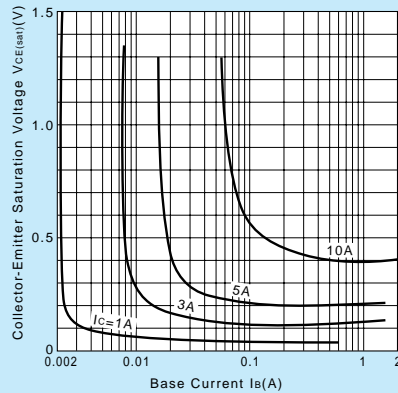
Typical Switching Characteristics (Common Emitter)

V_{CC} (V)	R_L (Ω)	I_C (A)	I_{B1} (A)	I_{B2} (A)	t_{on} (μs)	t_{stg} (μs)	t_f (μs)
20	4	5	0.1	-0.1	0.5typ	2.0typ	0.5typ

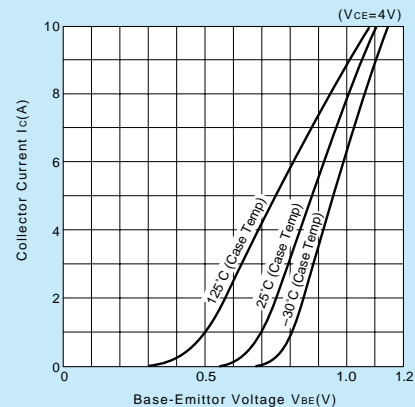
I_C-V_{CE} Characteristics (Typical)



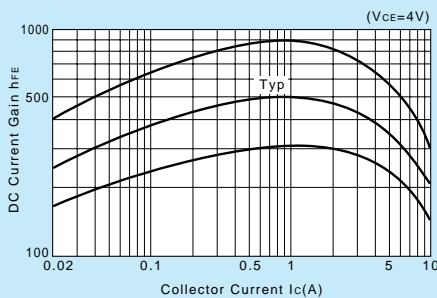
$V_{CE(sat)}-I_B$ Characteristics (Typical)



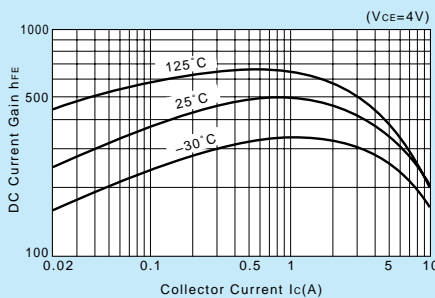
I_C-V_{BE} Temperature Characteristics (Typical)



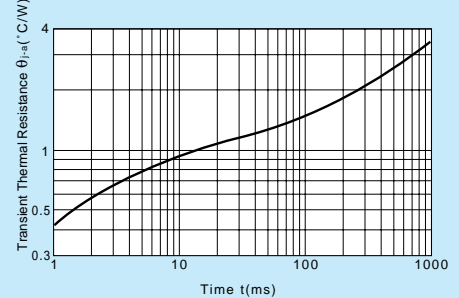
$h_{FE}-I_C$ Characteristics (Typical)



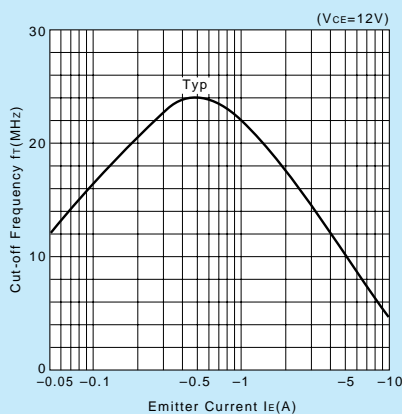
$h_{FE}-I_C$ Temperature Characteristics (Typical)



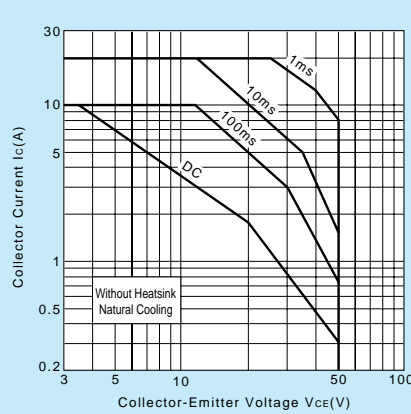
$\theta_{j-a}-t$ Characteristics



f_T-I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)



P_C-T_a Derating

