

Low $V_{CE(sat)}$

2SA1746

Silicon PNP Epitaxial Planar Transistor

Application : Chopper Regulator, Switch and General Purpose

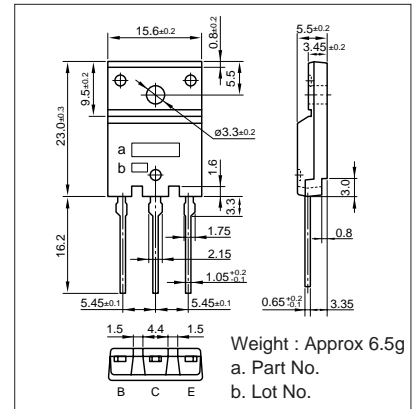
■ Absolute maximum ratings ($T_a=25^\circ\text{C}$)

Symbol	Ratings	Unit
V_{CB0}	-70	V
V_{CE0}	-50	V
V_{EB0}	-6	V
I_c	-12(Pulse-20)	A
I_B	-4	A
P_c	60($T_c=25^\circ\text{C}$)	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	Ratings	Unit
I_{CB0}	$V_{CB}=-70\text{V}$	-10max	μA
I_{EB0}	$V_{EB}=-6\text{V}$	-10max	μA
$V_{(BR)CEO}$	$I_c=-25\text{mA}$	-50min	V
h_{FE}	$V_{CE}=-1\text{V}, I_c=-5\text{A}$	50min	
$V_{CE(sat)}$	$I_c=-5\text{A}, I_B=-80\text{mA}$	-0.5max	V
$V_{BE(sat)}$	$I_c=-5\text{A}, I_B=-80\text{mA}$	-1.2max	V
f_r	$V_{CE}=-12\text{V}, I_E=1\text{A}$	25typ	MHz
COB	$V_{CB}=-10\text{V}, f=1\text{MHz}$	400typ	pF

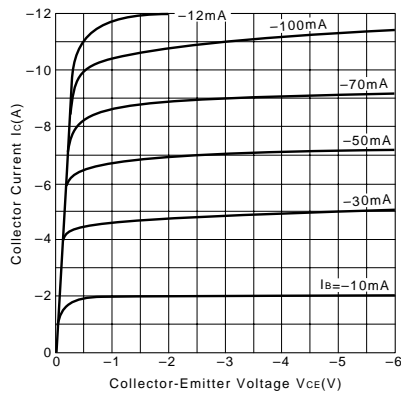
External Dimensions FM100(TO3PF)



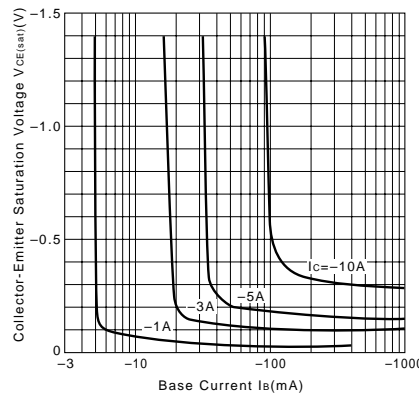
■ Typical Switching Characteristics (Common Emitter)

V_{CC} (V)	R_L (Ω)	I_c (A)	V_{BB1} (V)	V_{BB2} (V)	I_{B1} (mA)	I_{B2} (mA)	t_{on} (μs)	t_{stg} (μs)	t_f (μs)
-20	4	-5	-10	5	-80	80	0.5typ	0.6typ	0.3typ

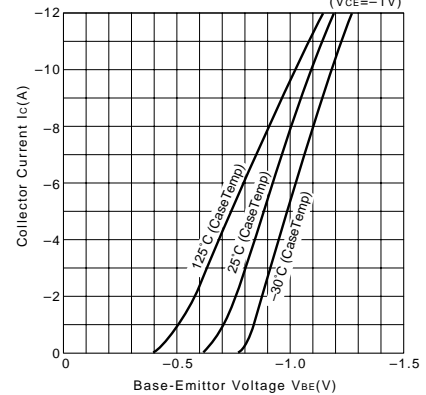
I_c-V_{CE} Characteristics (Typical)



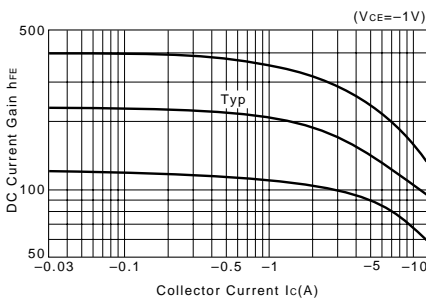
$V_{CE(sat)}-I_B$ Characteristics (Typical)



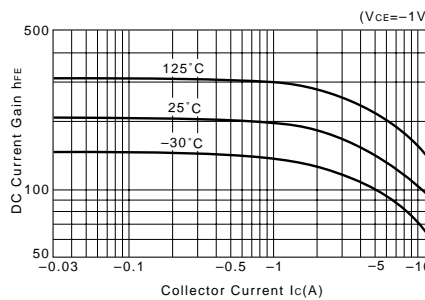
I_c-V_{BE} Temperature Characteristics (Typical)



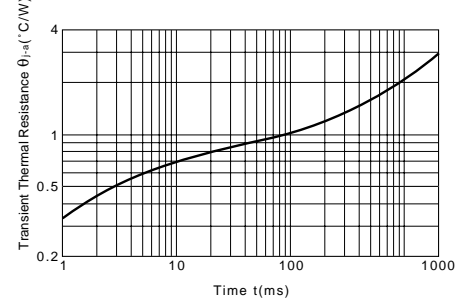
$h_{FE}-I_c$ Characteristics (Typical)



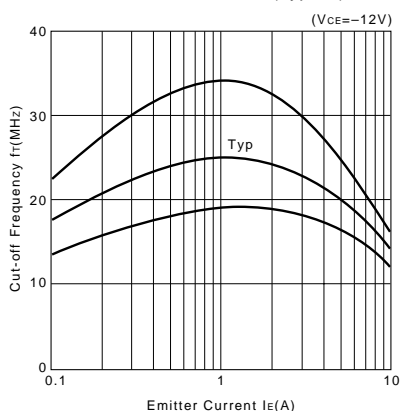
$h_{FE}-I_c$ Temperature Characteristics (Typical)



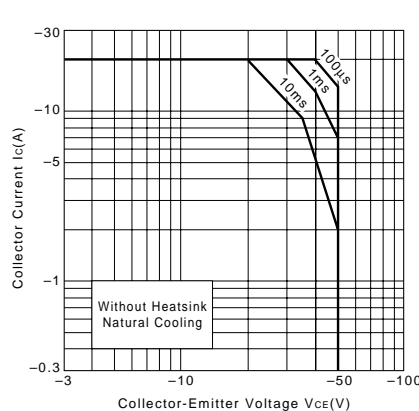
$\theta_{j-a}-t$ Characteristics



f_r-I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)



P_c-T_a Derating

