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Low  $V_{CE(sat)}$

# 2SA1746

Silicon PNP Epitaxial Planar Transistor

Application : Chopper Regulator, Switch and General Purpose

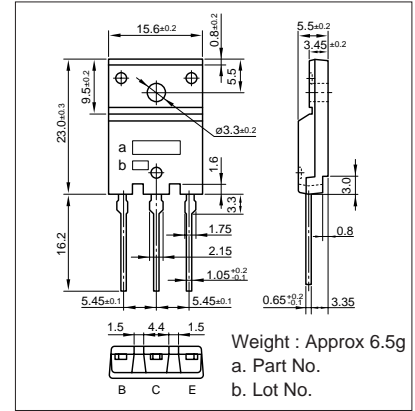
■ Absolute maximum ratings (Ta=25°C)

Symbol	Ratings	Unit
$V_{CBO}$	-70	V
$V_{CEO}$	-50	V
$V_{EBO}$	-6	V
$I_C$	-12(Pulse-20)	A
$I_B$	-4	A
$P_C$	60(Tc=25°C)	W
$T_J$	150	°C
$T_{stg}$	-55 to +150	°C

■ Electrical Characteristics (Ta=25°C)

Symbol	Conditions	Ratings	Unit
$I_{CBO}$	$V_{CB}=-70V$	-10max	$\mu A$
$I_{EBO}$	$V_{EB}=-6V$	-10max	$\mu A$
$V_{(BR)CEO}$	$I_C=-25mA$	-50min	V
$h_{FE}$	$V_{CE}=-1V, I_C=-5A$	50min	
$V_{CE(sat)}$	$I_C=-5A, I_B=-80mA$	-0.5max	V
$V_{BE(sat)}$	$I_C=-5A, I_B=-80mA$	-1.2max	V
$f_r$	$V_{CE}=-12V, I_E=1A$	25typ	MHz
$C_{OB}$	$V_{CB}=-10V, f=1MHz$	400typ	pF

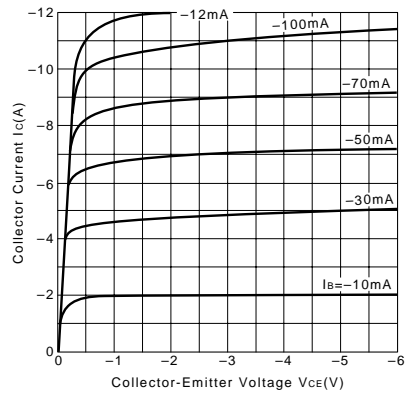
External Dimensions FM100(TO3PF)



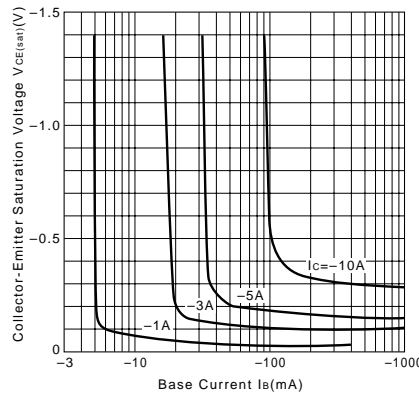
■ Typical Switching Characteristics (Common Emitter)

$V_{CC}$ (V)	$R_L$ ( $\Omega$ )	$I_C$ (A)	$V_{BB1}$ (V)	$V_{BB2}$ (V)	$I_{B1}$ (mA)	$I_{B2}$ (mA)	$t_{on}$ ( $\mu s$ )	$t_{stg}$ ( $\mu s$ )	$t_f$ ( $\mu s$ )
-20	4	-5	-10	5	-80	80	0.5typ	0.6typ	0.3typ

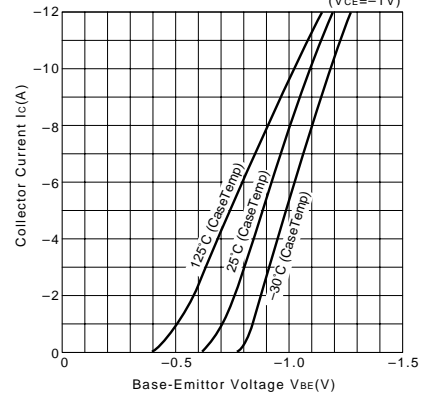
$I_C-V_{CE}$  Characteristics (Typical)



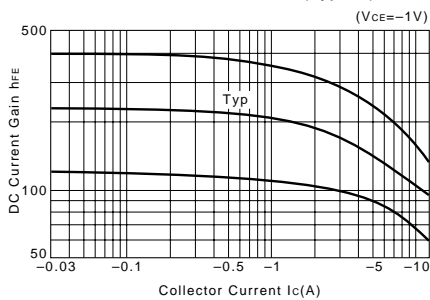
$V_{CE(sat)}-I_B$  Characteristics (Typical)



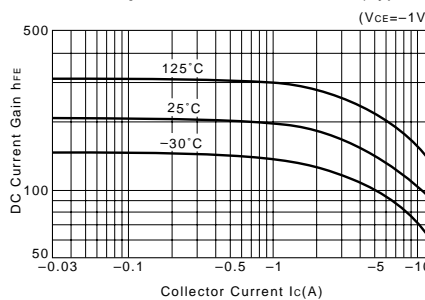
$I_C-V_{BE}$  Temperature Characteristics (Typical)



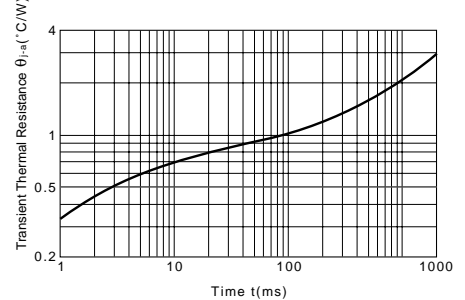
$h_{FE}-I_C$  Characteristics (Typical)



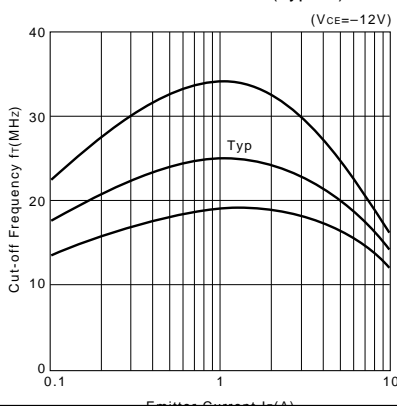
$h_{FE}-I_C$  Temperature Characteristics (Typical)



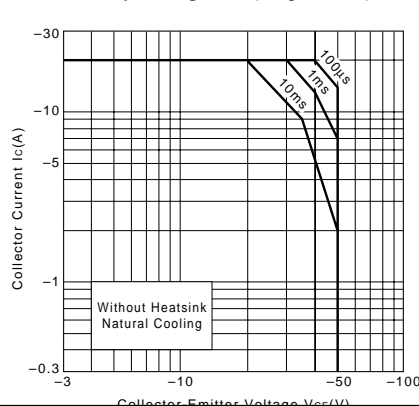
$\theta_{j-a-t}$  Characteristics



$f_T-I_E$  Characteristics (Typical)



Safe Operating Area (Single Pulse)



$P_C-T_a$  Derating

