2SA1859/1859A

Silicon PNP Epitaxial Planar Transistor (Complement to type 2SC4883/A)

Application : Audio Output Driver and TV Velocity-modulation

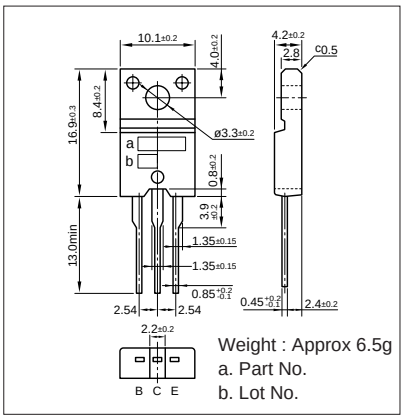
■Absolute maximum ratings (Ta=25°C)

Symbol	Ratings 2SA1859	Ratings 2SA1859A	Unit
V_{CBO}	–150	–180	V
V_{CEO}	–150	–180	V
V_{EBO}	–6		V
I_C	–2		A
I_B	–1		A
P_C	20(Tc=25°C)		W
Tj	150		°C
Tstg	–55 to +150		°C

■Electrical Characteristics (Ta=25°C)

Symbol	Conditions	Ratings 2SA1859	Ratings 2SA1859A	Unit
I_{CBO}		–10max		μA
	V_{CB}=	–150	–180	V
I_{EBO}	V_{EB}=–6V	–10max		μA
$V_{(BR)CEO}$	I_C=–10mA	–150min	–180min	V
h_{FE}	V_{CE}=–10V, I_C=–0.7A	60 to 240		
$V_{CE(sat)}$	I_C=–0.7A, I_B=–70mA	–1.0max		V
f_T	V_{CE}=–12V, I_E=0.7A	60typ		MHz
C_{OB}	V_{CB}=–10V, f=1MHz	30typ		pF

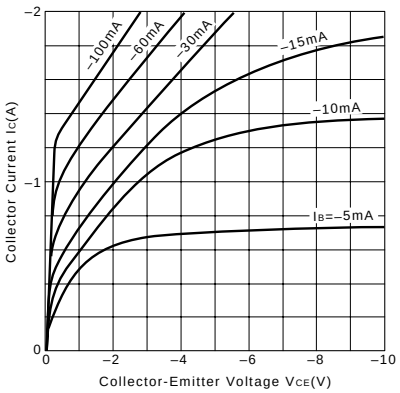
External Dimensions FM20(TO220F)



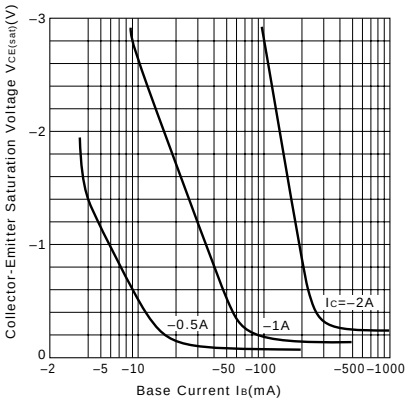
■Typical Switching Characteristics (Common Emitter)

V_{CC} (V)	R_L (Ω)	I_C (A)	V_{BB1} (V)	V_{BB2} (V)	I_{B1} (mA)	I_{B2} (mA)	ton (μs)	tstg (μs)	tf (μs)
–20	20	–1	–10	5	–100	100	0.5typ	1.0typ	0.5typ

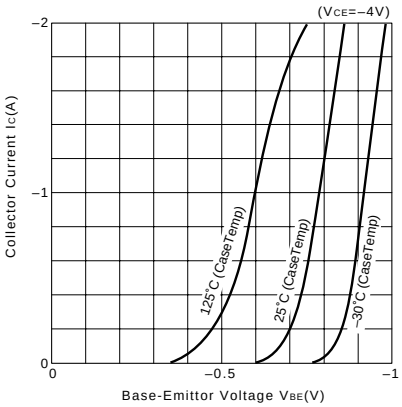
I_C–V_{CE} Characteristics (Typical)



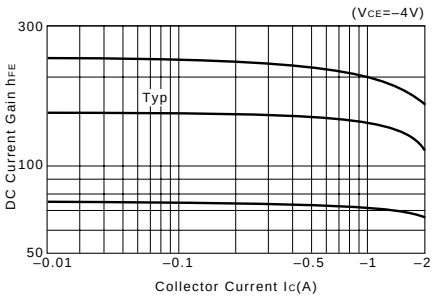
V_{CE}(sat)–I_B Characteristics (Typical)



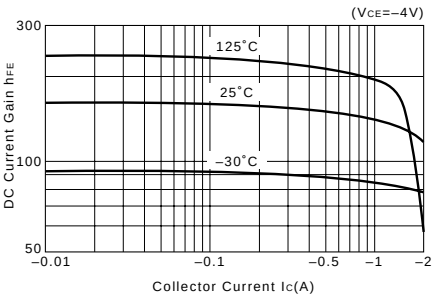
I_C–V_{BE} Temperature Characteristics (Typical)



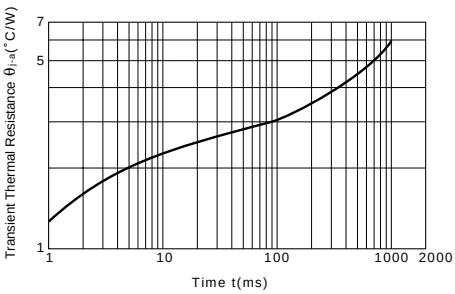
h_{FE}–I_C Characteristics (Typical)



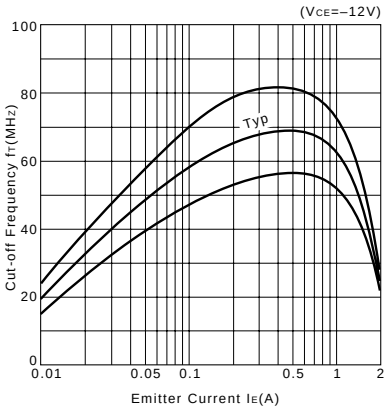
h_{FE}–I_C Temperature Characteristics (Typical)



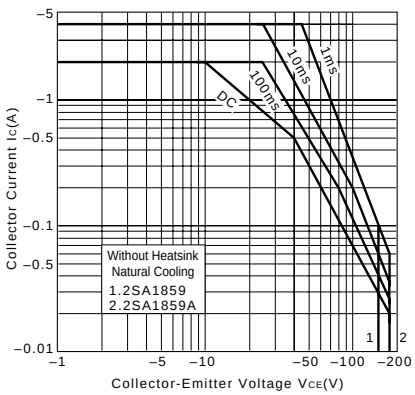
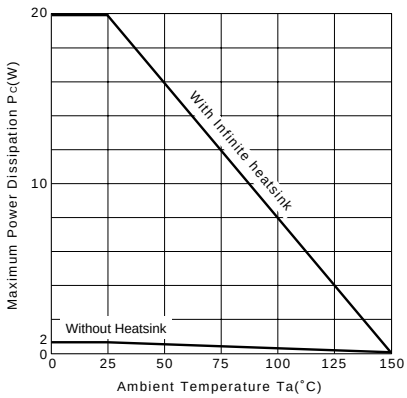
$\theta_{j\text{-}a}$–t Characteristics



f_T–I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)



Pc–Ta Derating