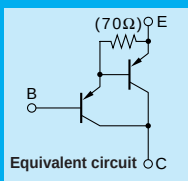
Darlington 2SB1559



Silicon PNP Epitaxial Planar Transistor (Complement to type 2SD2389)

Application : Audio, Series Regulator and General Purpose

Absolute maximum ratings (Ta=25°C)

Symbol	2SB1559	Unit
V_{CBO}	–160	V
V_{CEO}	–150	V
V_{EBO}	–5	V
I_C	–8	A
I_B	–1	A
P_C	80(Tc=25°C)	W
Tj	150	°C
Tstg	–55 to +150	°C

Electrical Characteristics (Ta=25°C)

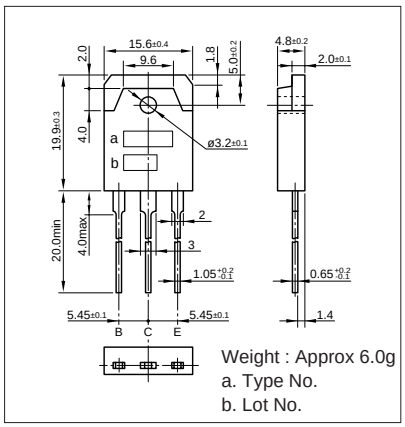
Symbol	Conditions	2SB1559	Unit
I_{CBO}	V_{CB}=–160V	–100max	μA
I_{EBO}	V_{EB}=–5V	–100max	μA
$V_{(BR)CEO}$	I_C=–30mA	–150min	V
h_{FE}	V_{CE}=–4V, I_C=–6A	5000min*	
$V_{CE(sat)}$	I_C=–6A, I_B=–6mA	–2.5max	V
$V_{BE(sat)}$	I_C=–6A, I_B=–6mA	–3.0max	V
f_T	V_{CE}=–12V, I_E=1A	65typ	MHz
C_{OB}	V_{CB}=–10V, f=1MHz	160typ	pF

*h_{FE} Rank O(5000 to 12000), P(6500 to 20000), Y(15000 to 30000)

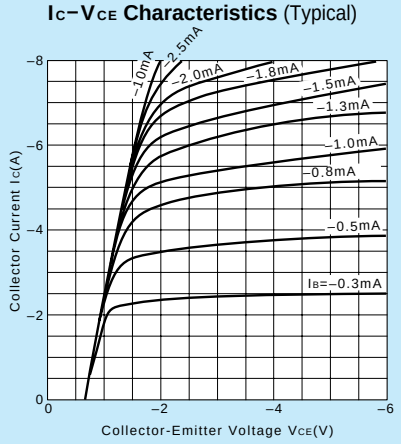
Typical Switching Characteristics (Common Emitter)

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)
–60	10	–6	–10	5	–6	6	0.7typ	3.6typ	0.9typ

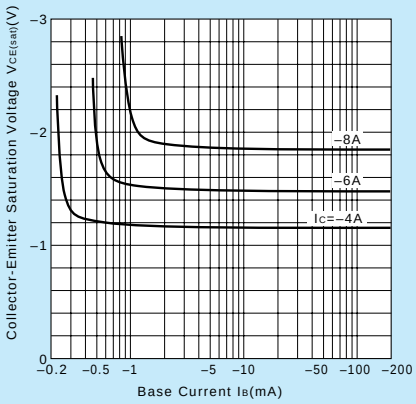
External Dimensions MT-100(TO3P)



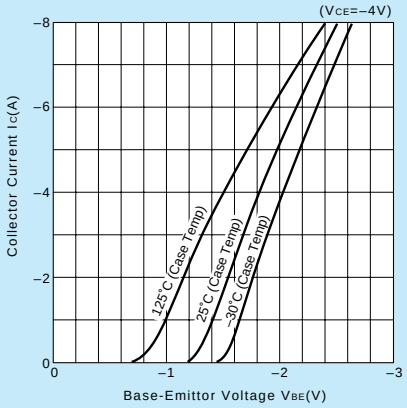
I_C–V_{CE} Characteristics (Typical)



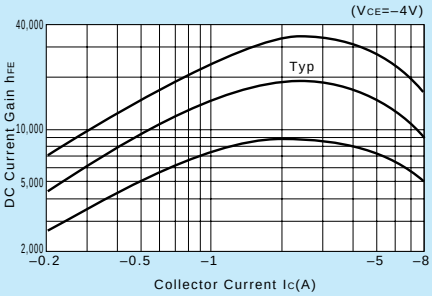
$V_{CE}(sat)$–I_B Characteristics (Typical)



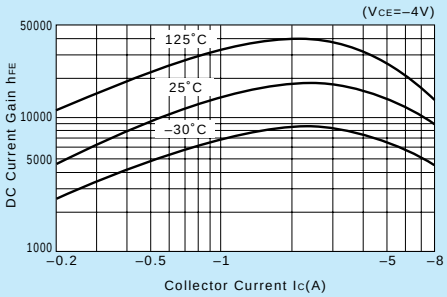
I_C–V_{BE} Temperature Characteristics (Typical)



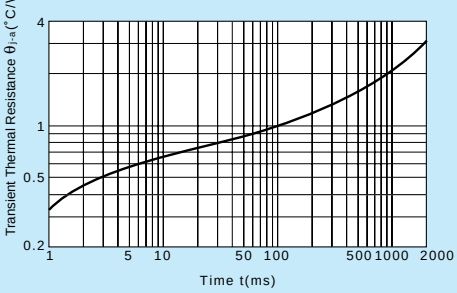
h_{FE}–I_C Characteristics (Typical)



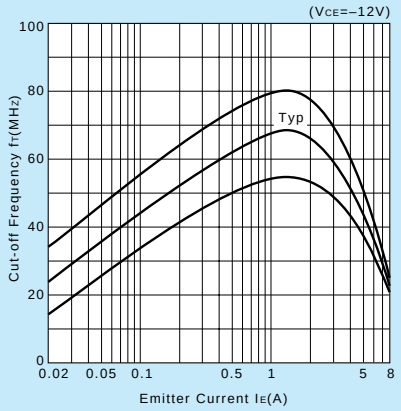
h_{FE}–I_C Temperature Characteristics (Typical)



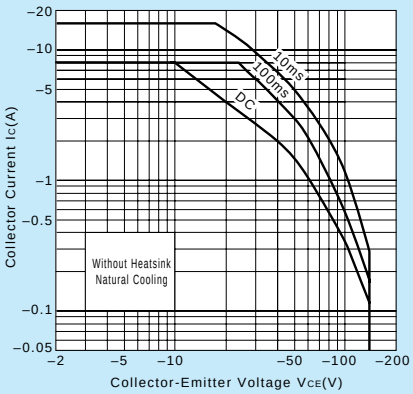
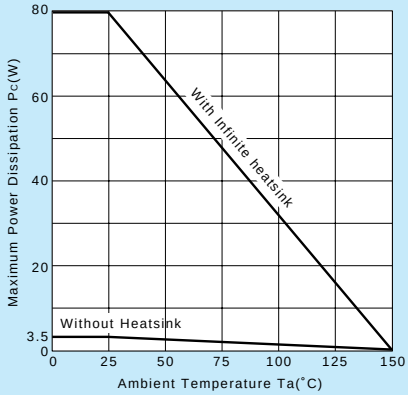
$\theta_{j\text{-}a}$–t Characteristics



f_T–I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)



Pc–Ta Derating