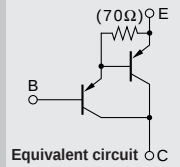


Darlington

2SB1559



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

Application : Audio, Series Regulator and General Purpose

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

Symbol	Ratings	Unit
V_{CB0}	-160	V
V_{CE0}	-150	V
V_{EB0}	-5	V
I_C	-8	A
I_B	-1	A
P_C	80($T_c=25^\circ\text{C}$)	W
T_j	150	$^\circ\text{C}$
T_{stg}	-55 to +150	$^\circ\text{C}$

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

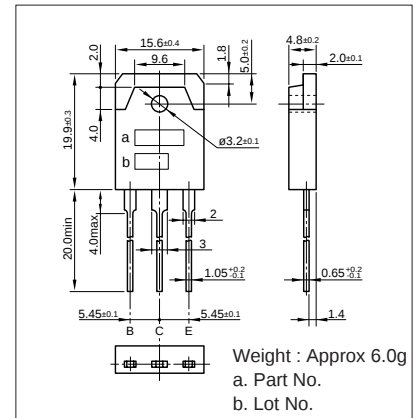
Symbol	Conditions	Ratings	Unit
I_{CBO}	$V_{CB}=-160\text{V}$	-100max	μA
I_{EBO}	$V_{EB}=-5\text{V}$	-100max	μA
$V_{(BR)CEO}$	$I_C=-30\text{mA}$	-150min	V
h_{FE}	$V_{CE}=-4\text{V}$, $I_C=-6\text{A}$	5000min*	
$V_{CE(sat)}$	$I_C=-6\text{A}$, $I_B=-6\text{mA}$	-2.5max	V
$V_{BE(sat)}$	$I_C=-6\text{A}$,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

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

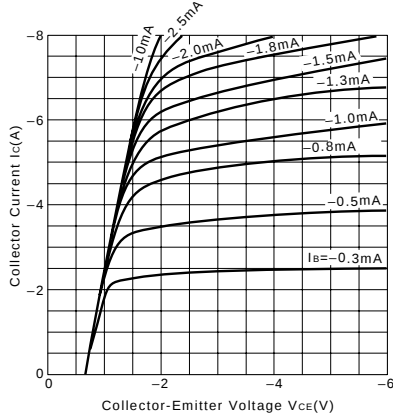
Typical Switching Characteristics (Common Emitter)

V_{CC} (V)	R_L (Ω)	I_C (A)	V_{BB1} (V)	V_{BB2} (V)	I_{B1} (mA)	I_{B2} (mA)	t_{on} (μs)	t_{stg} (μs)	t_f (μs)
-60	10	-6	-10	5	-6	6	0.7typ	3.6typ	0.9typ

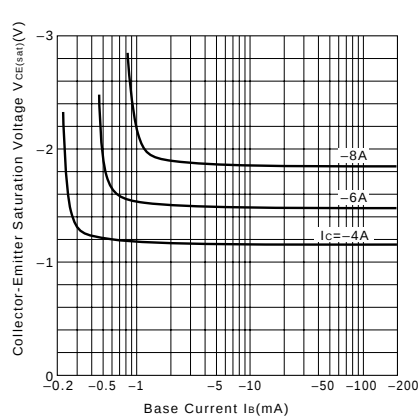
External Dimensions MT-100(TO3P)



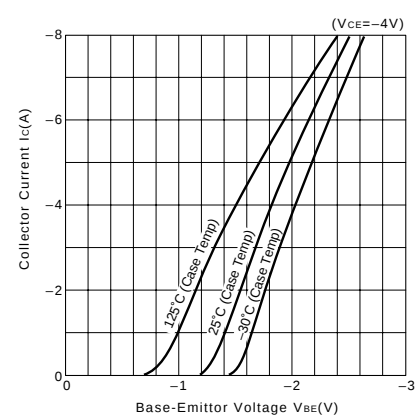
I_C-V_{CE} Characteristics (Typical)



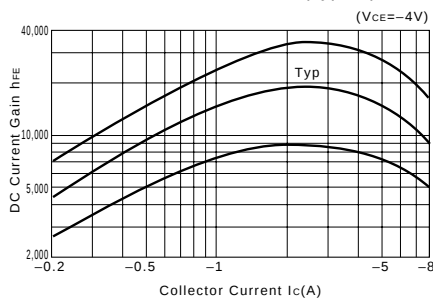
$V_{CE(sat)}-I_B$ Characteristics (Typical)



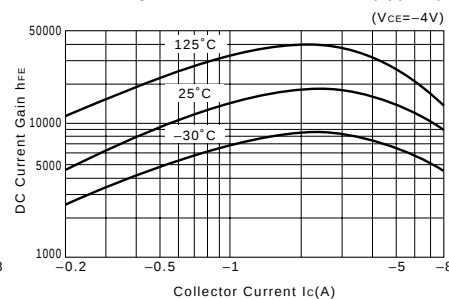
I_C-V_{BE} Temperature Characteristics (Typical)



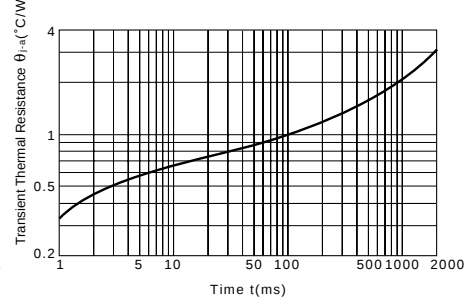
$h_{FE}-I_C$ Characteristics (Typical)



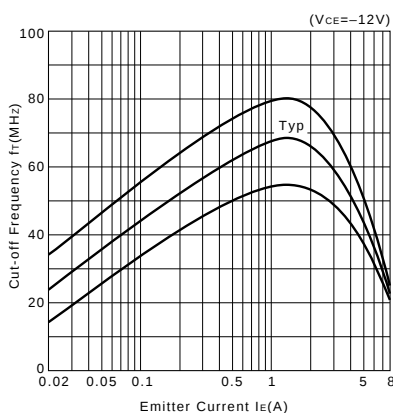
$h_{FE}-I_C$ Temperature Characteristics (Typical)



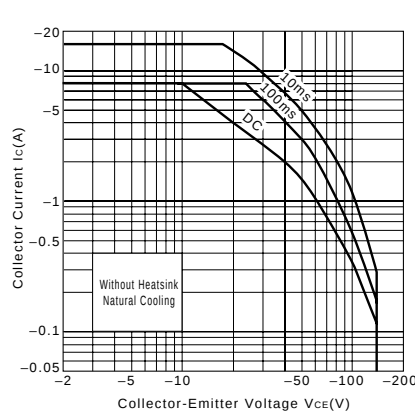
$\theta_{JA}-t$ Characteristics



f_r-I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)



P_C-T_a Derating

