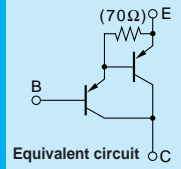


Darlington

2SB1659



Equivalent circuit

Silicon PNP Epitaxial Planar Transistor (Complement to type 2SD2589)

Application : Audio, Series Regulator and General Purpose

Absolute maximum ratings (Ta=25°C)

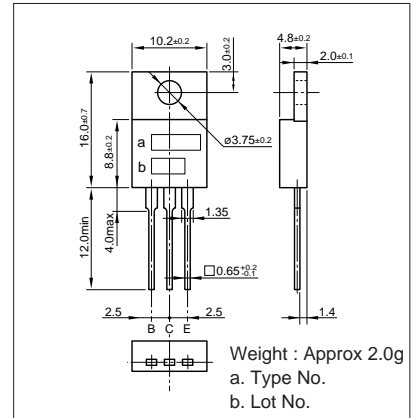
Symbol	2SB1659	Unit
VcBo	-110	V
VCEo	-110	V
VEBo	-5	V
Ic	-6	A
IB	-1	A
Pc	50(Tc=25°C)	W
Tj	150	°C
Tstg	-55 to +150	°C

Electrical Characteristics (Ta=25°C)

Symbol	Conditions	2SB1659	Unit
ICBO	VCB=-110V	-100max	μA
IEBO	VEB=-5V	-100max	μA
V(BR)CEO	Ic=-30mA	-110min	V
hFE	VCE=-4V, Ic=-5A	5000min*	
VCE(sat)	Ic=-5A, IB=-5mA	-2.5max	V
VBE(sat)	Ic=-5A, IB=-5mA	-3.0max	V
fr	VCE=-12V, IE=0.5A	100typ	MHz
COB	VCB=-10V, f=1MHz	110typ	pF

*hFE Rank ○(5000to12000), P(6500to20000), Y(15000to30000)

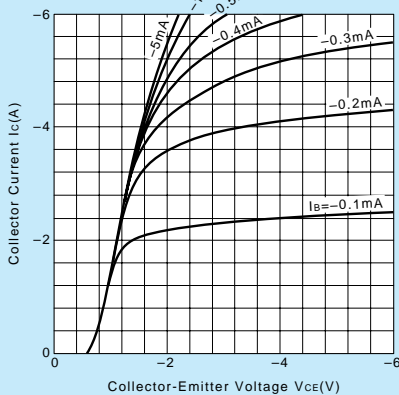
External Dimensions MT-25(TO220)



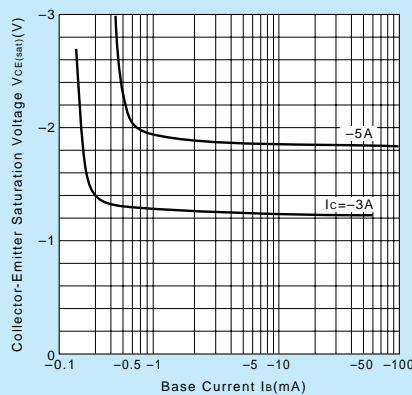
Typical Switching Characteristics (Common Emitter)

VCC (V)	RL (Ω)	Ic (A)	VBB1 (V)	VBB2 (V)	IB1 (mA)	IB2 (mA)	ton (μs)	tstg (μs)	tf (μs)
-30	6	-5	-10	5	-5	5	1.1typ	3.2typ	1.1typ

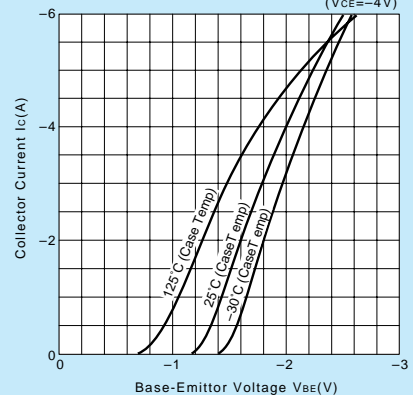
Ic-VCE Characteristics (Typical)



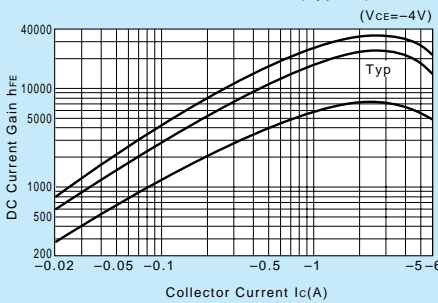
VCE(sat)-IB Characteristics (Typical)



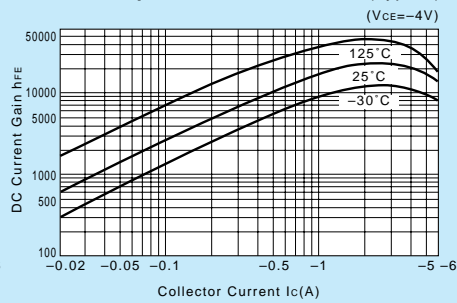
Ic-VBE Temperature Characteristics (Typical)



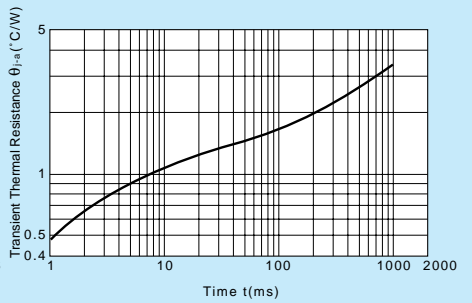
hFE-Ic Characteristics (Typical)



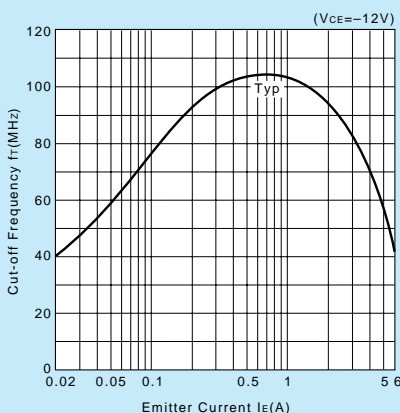
hFE-Ic Temperature Characteristics (Typical)



θj-a-t Characteristics



fr-IE Characteristics (Typical)



Safe Operating Area (Single Pulse)

Pc-Ta Derating

