2SB1108

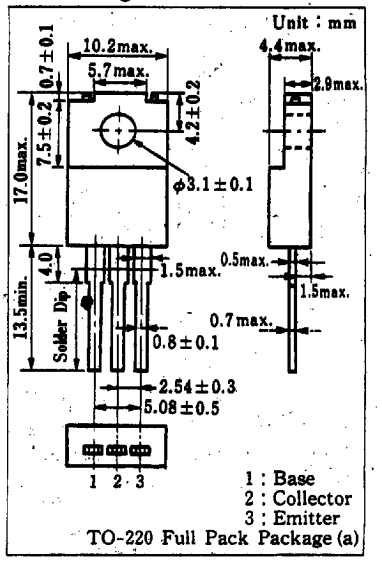
Silicon PNP Epitaxial Planar Darlington Type

Medium Speed Switching
Complementary Pair with 2SD1608

■ Features

- High DC current gain (h_{FE})
- High speed switching
- "Full Pack" package for simplified mounting on a heat sink with one screw

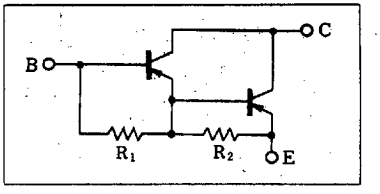
■ Package Dimensions



■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage		V_{CBO}	−120	V
Collector-emitter voltage		V_{CEO}	−120	V
Emitter-base voltage		V_{EBO}	−7	V
Peak collector current		I_{CP}	−15	A
Collector current		I_C	−10	A
Collector power dissipation	Tc=25℃	P_C	50	W
	Ta=25℃		2	
Junction temperature		T_j	150	℃
Storage temperature		T_{stg}	−55～+150	℃

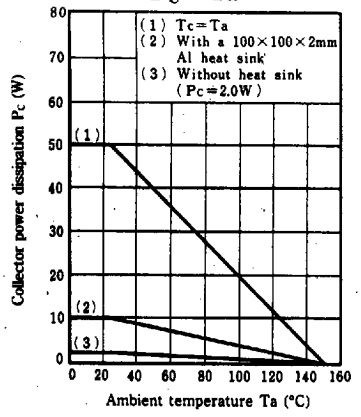
■ Inner Circuit



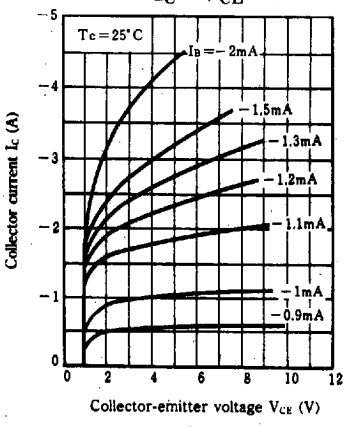
■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	V_{CB}=−120, I_E=0			−100	μA
	I_{CEO}	V_{CE}=−100 V, I_B=0			−10	
Collector-emitter voltage	$V_{CEO(sus)}$	I_C=−2 A, R_{BE}=∞, L=10 mH	−120			V
Emitter-base voltage	V_{EBO}	I_E=−50 mA, I_C=0	−7			V
DC current gain	h_{FE}	V_{CE}=−3 V, I_C=−4 A	1000		20000	
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=−4 A, I_B=−8 mA			−1.5	V
	$V_{CE(sat)2}$	I_C=−8 A, I_B=−80 mA			−3	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	I_C=−4 A, I_B=−8 mA			−2	V
	$V_{BE(sat)2}$	I_C=−8 A, I_B=−80 mA			−3.5	V
Transition frequency	f_T	V_{CE}=−10V, I_C=−1A, f=10MHz		30		MHz
Turn-on time	t_{on}	I_C=−4A, I_{B1}=−8mA, I_{B2}=8mA, V_{CC}=−50 V		0.7		μs
Storage time	t_{stg}			3.5		μs
Collector current fall time	t_f			2.5		μs

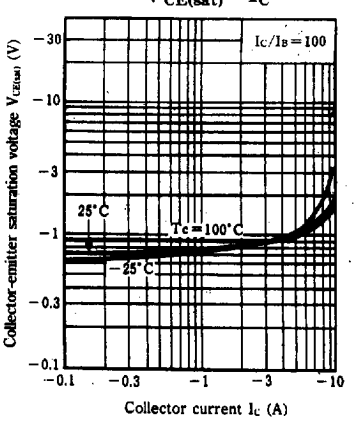
$P_C - Ta$



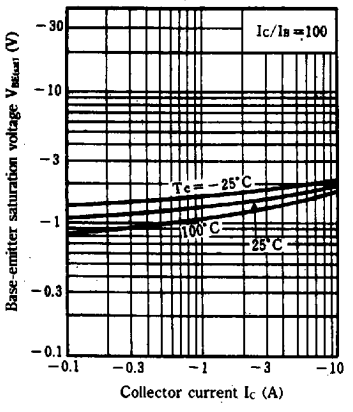
$I_C - V_{CE}$



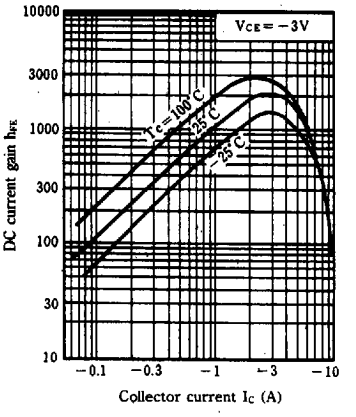
$V_{CE(sat)} - I_C$



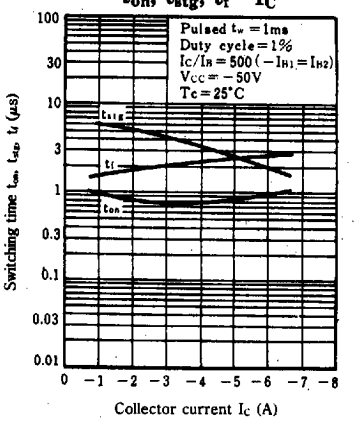
$V_{BE(sat)} - I_C$



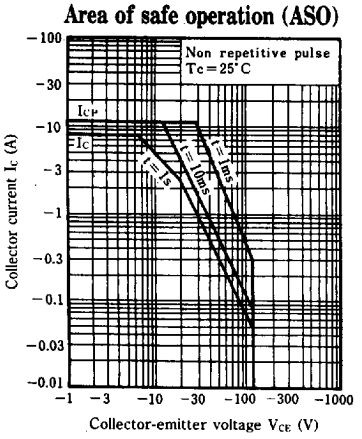
$h_{FE} - I_C$



$t_{on}, t_{stg}, t_f - I_C$



Area of safe operation (ASO)



$R_{th(t)} - t$