2SD1634

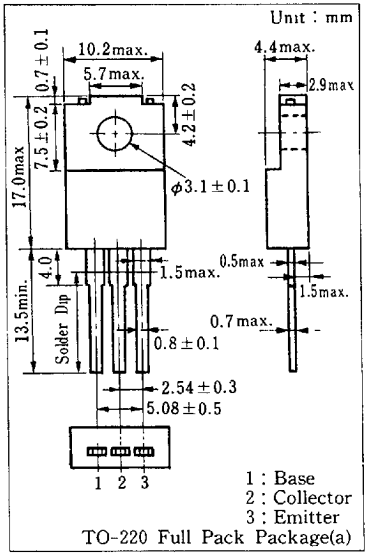
Silicon PNP Triple-Diffused Planar Darlington Type

Power Switching

■ Features

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

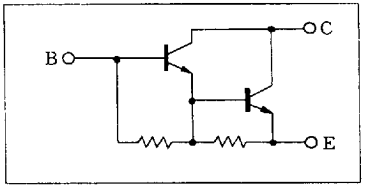
■ Package Dimensions



■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage		V_{CBO}	100	V
Collector-emitter voltage		V_{CEO}	100	V
Emitter-base voltage		V_{EBO}	7	V
Peak collector current		I_{CP}	12	A
Collector current		I_C	8	A
Base current		I_B	0.5	A
Collector power dissipation	Tc=25°C	P_C	50	W
	Ta=25°C		2	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55~+150	°C

■ Inner Circuit



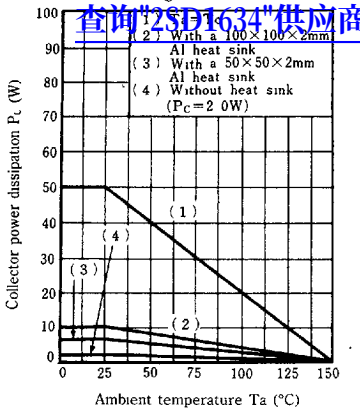
■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	V_{CB}=100 V, I_E=0			100	μA
	I_{CEO}	V_{CE}=100 V, I_B=0			100	μA
Emitter cutoff current	I_{EBO}	V_{EB}=7 V, I_C=0			5	mA
Collector-emitter voltage	$V_{CEO(sus)}$	I_C=0.2 A	100			V
DC current gain	h_{FE}*	V_{CE}=3 V, I_C=5 A	1500		10000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=5 A, I_B=5 mA			1.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=5 A, I_B=5 mA			2	V
Transition frequency	f_T	V_{CE}=10V, I_C=1A, f=1MHz		15		MHz
Turn-on time	t_{on}	I_C=8 A, I_{B1}=8 mA, I_{B2}=−8 mA, V_{CC}=50 V			3	μs
Storage time	t_{stg}				5	μs
Fall time	t_f				3	μs

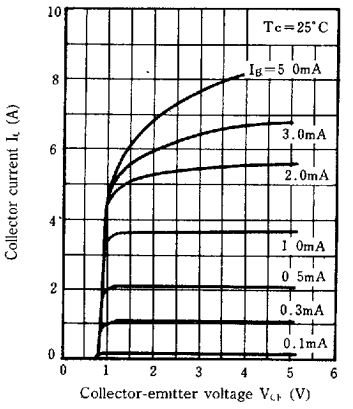
*h_{FE} Classifications

Class	Q	P
h_{FE}	1500~6000	5000~10000

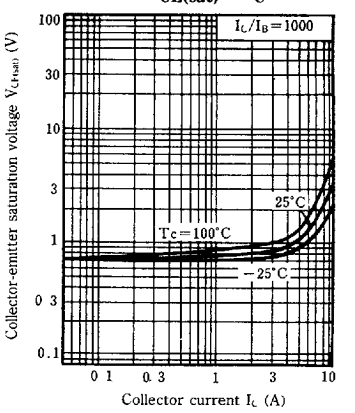
$P_C - Ta$



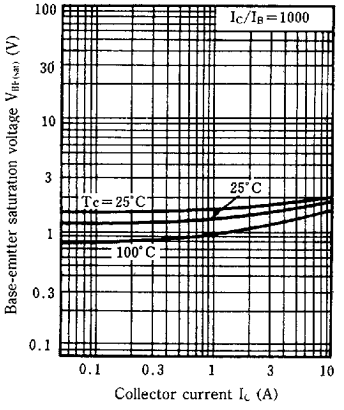
$I_C - V_{CE}$



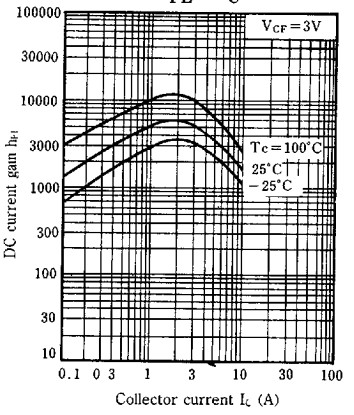
$V_{CE(sat)} - I_C$



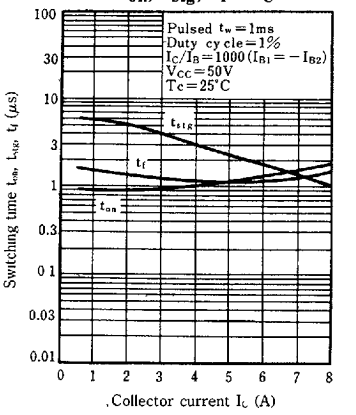
$V_{BE(sat)} - I_C$



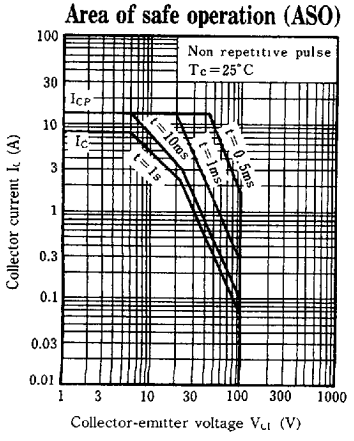
$h_{FE} - I_C$



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



Area of safe operation (ASO)



$R_{th(t)} - t$