2SD1534

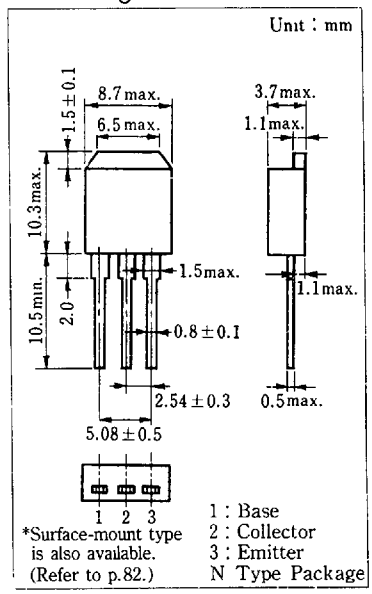
Silicon PNP Triple-Diffused Planar Darlington Type

High Power Amplifier

■ Features

- Very good linearity of DC current gain (h_{FE})
- High collector-base voltage (V_{CBO})
- Wide area of safety operation (ASO)
- "N Type" package configuration with a cooling fin for direct soldering on PC board of a small-size electronic equipment

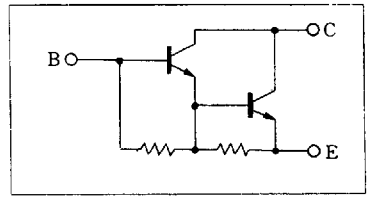
■ Package Dimensions



■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage		V_{CBO}	500	V
Collector-emitter voltage		V_{CEO}	400	V
Emitter-base voltage		V_{EBO}	12	V
Peak collector current		I_{CP}	14	A
Collector current		I_C	7	A
Base current		I_B	0.5	A
Collector power dissipation	Tc=25 ℃	P_C	50	W
	Ta=25 ℃		1.3	
Junction temperature		T_j	150	℃
Storage temperature		T_{stg}	−55～+150	℃

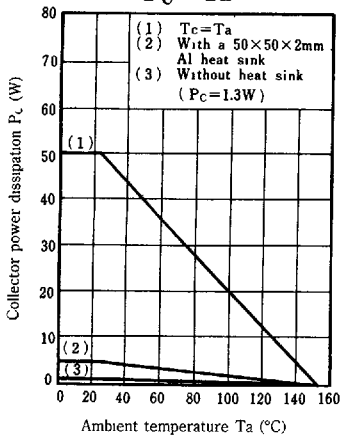
■ Inner Circuit



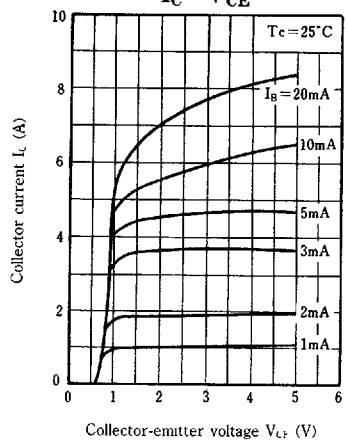
■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	V_{CE}=500 V, I_E=0			0.1	mA
	I_{CEO}	V_{CE}=400 V, I_B=0			0.1	mA
Emitter cutoff current	I_{EBO}	V_{EB}=12 V, I_C=0			100	mA
Collector-emitter voltage	V_{CEO}	I_C=100 mA, I_B=0	400			V
DC current gain	h_{FE1}	V_{CE}=2 V, I_C=2 A	500			
	h_{FE2}	V_{CE}=2 V, I_C=6 A	200			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=7 A, I_E=70 mA			2.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=7 A, I_B=70 mA			2.5	V
Transition frequency	f_t	V_{CE}=10V, I_C=0.5A, f=1MHz		20		MHz
Turn-on time	t_{on}	I_C=7 A		1.5		μs
Storage time	t_{stg}	I_{B1}=70 mA, I_{B2}=−70 mA		5.0		μs
Fall time	t_f	V_{CC}=300 V		6.5		μs

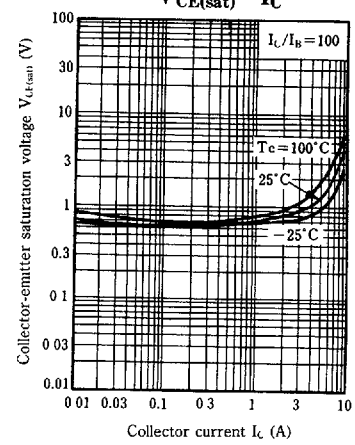
$P_C - Ta$



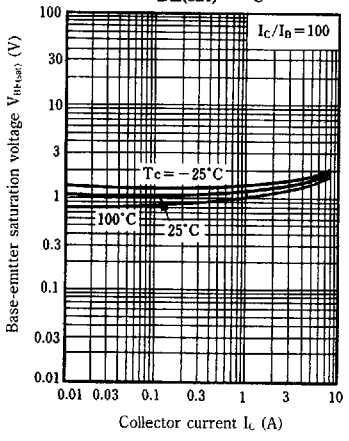
$I_C - V_{CE}$



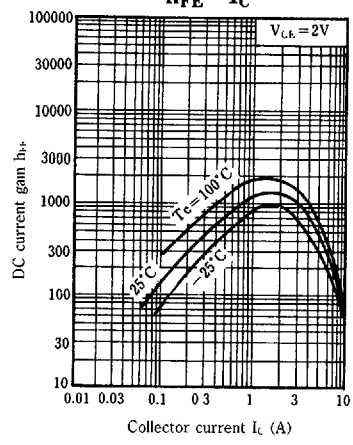
$V_{CE(sat)} - I_C$



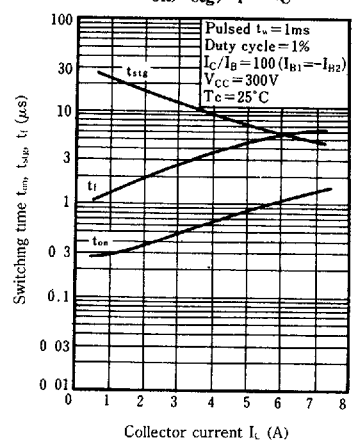
$V_{BE(sat)} - I_C$



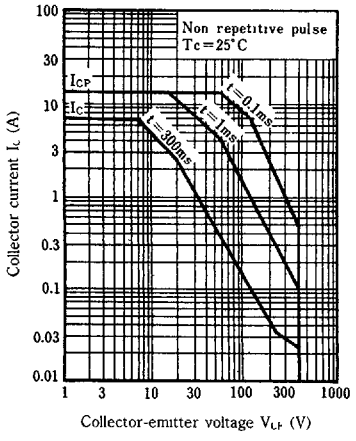
$h_{FE} - I_C$



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



Area of safe operation (ASO)



$R_{th(t)} - t$