

# 2SD2135

## Silicon NPN Epitaxial Planar Darlington Type

### AF Amplifier

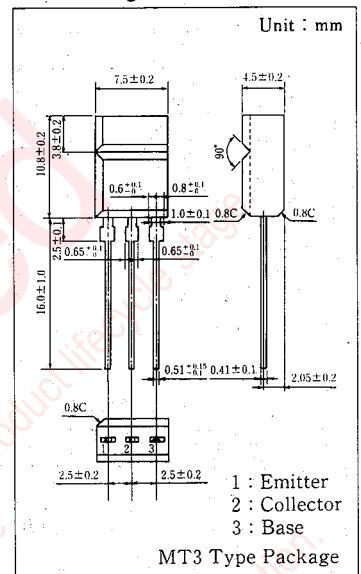
#### ■ Features

- High DC current gain ( $h_{FE}$ )
- 60V Zener diode built-in between C and B
- Automatic mounting by radial taping is possible.

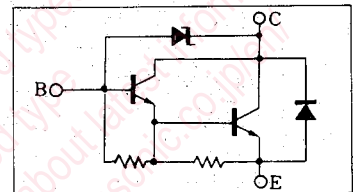
#### ■ Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

Item	Symbol	Value	Unit
Collector-base voltage	$V_{CB0}$	$60^{+25}_{-10}$	V
Collector-emitter voltage	$V_{CE0}$	$60^{+25}_{-10}$	V
Emitter-base voltage	$V_{EB0}$	5	V
Peak collector current	$I_{CP}$	1.5	A
Collector current	$I_C$	1.0	A
Collector power dissipation	$P_C$	1.5	W
Junction temperature	$I_C$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	$-55 \sim +150$	$^\circ\text{C}$

#### ■ Package Dimensions

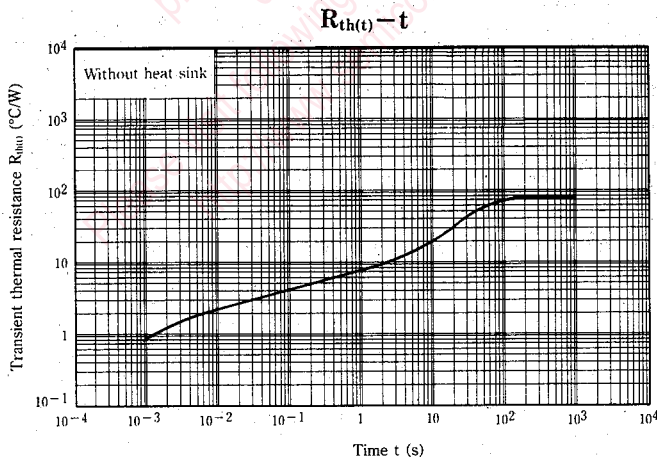
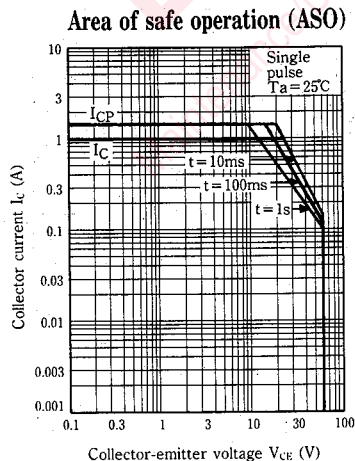
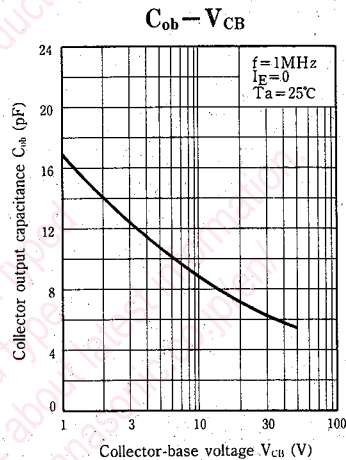
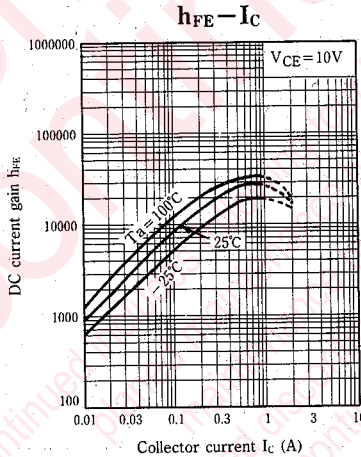
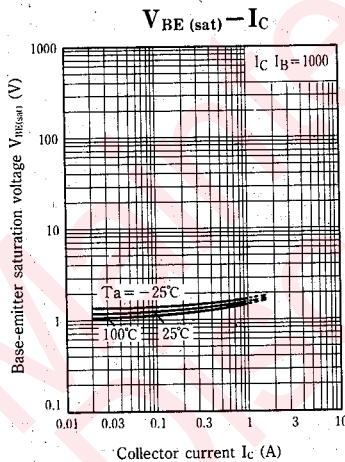
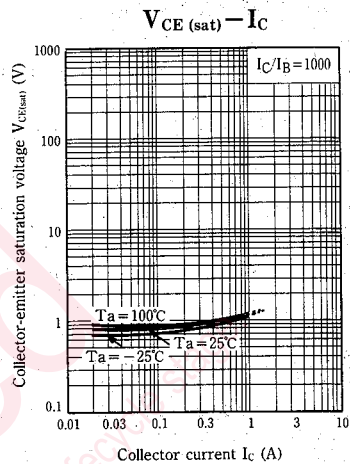
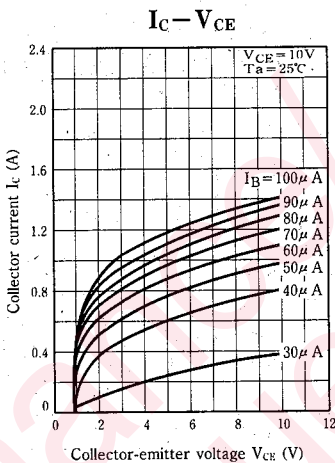
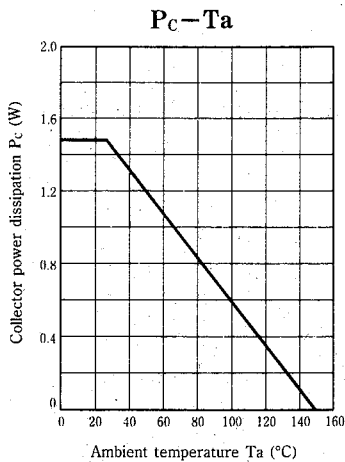


#### ■ Inner Circuit



#### ■ Electrical Characteristics ( $T_c=25^\circ\text{C}$ )

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	$I_{CB0}$	$V_{CB}=25\text{V}, I_E=0$			1	$\mu\text{A}$
Emitter cutoff current	$I_{EB0}$	$V_{EB}=4\text{V}, I_C=0$			2	mA
Collector-base voltage	$V_{CB0}$	$I_C=100\mu\text{A}, I_E=0$	50		85	V
Collector-emitter voltage	$V_{CE0}$	$I_C=1\text{mA}, I_B=0$	50		85	V
DC current gain	$h_{FE}$	$V_{CE}=10\text{V}, I_C=1.0\text{A}$	6500		40000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1.0\text{A}, I_B=1.0\text{mA}$			1.8	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=1.0\text{A}, I_B=1.0\text{mA}$			2.2	V
Transition frequency	$f_T$	$V_{CB}=10\text{V}, I_E=-50\text{mA}, f=200\text{MHz}$		150		MHz



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