2SD2135

Silicon NPN Epitaxial Planar Darlington Type

AF Amplifier

■ Features

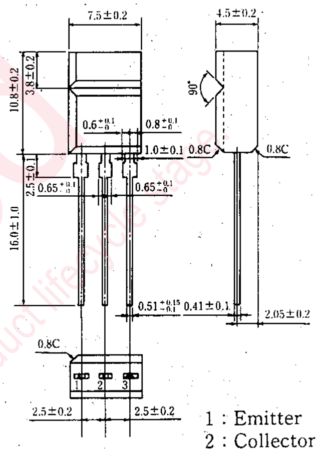
- High DC current gain (h_{FE})
- 60V Zener diode built-in between C and B
- Automatic mounting by radial taping is possible.

■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	60^{+25}_{-10}	V
Collector-emitter voltage	V_{CEO}	60^{+25}_{-10}	V
Emitter-base voltage	V_{EBO}	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	℃
Storage temperature	T_{stg}	−55～+150	℃

■ Package Dimensions

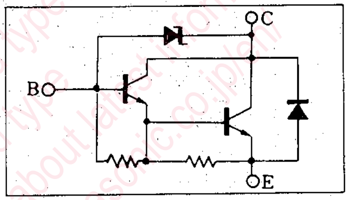
Unit : mm



1 : Emitter
2 : Collector
3 : Base

MT3 Type Package

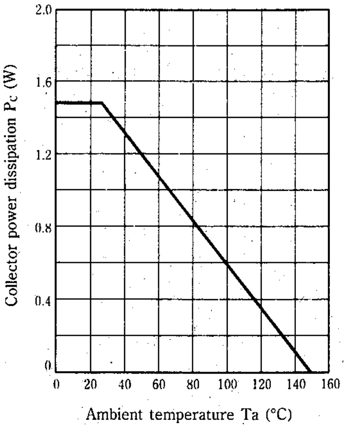
■ Inner Circuit



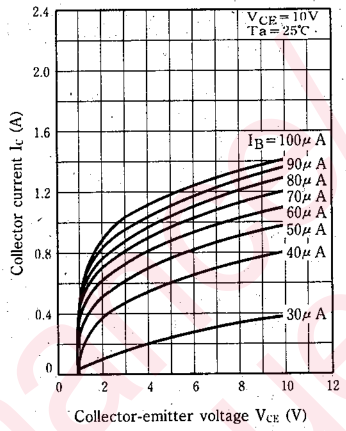
■ Electrical Characteristics (Tc=25°C)

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

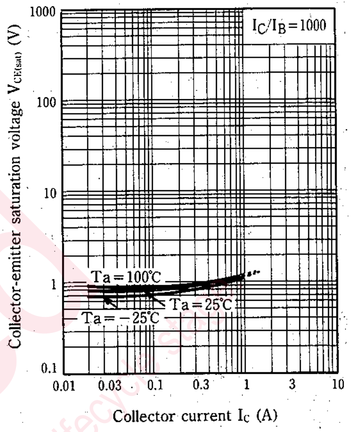
P_C — Ta



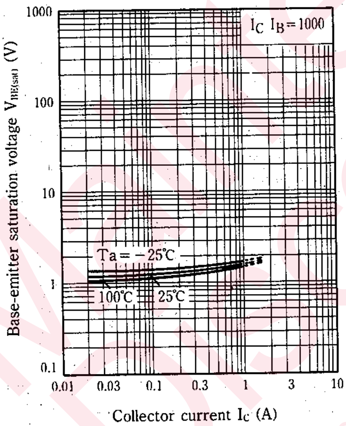
I_C — V_{CE}



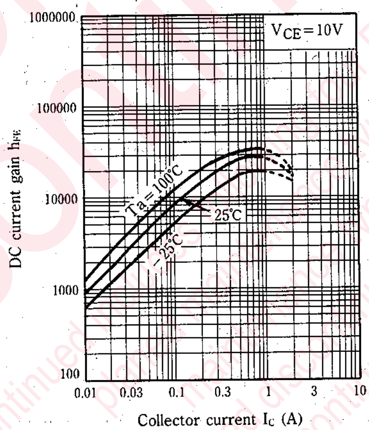
$V_{CE(sat)}$ — I_C



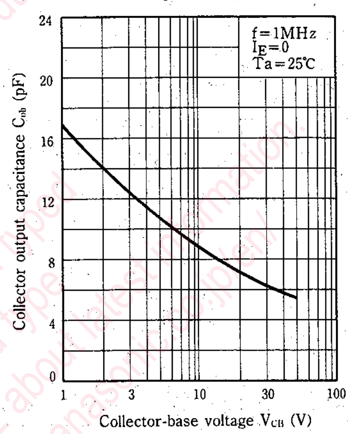
$V_{BE(sat)}$ — I_C



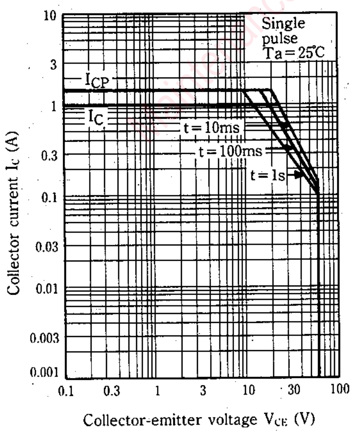
h_{FE} — I_C



C_{ob} — V_{CB}



Area of safe operation (ASO)



$R_{th(t)}$ — t