

2SD1640

Silicon NPN Epitaxial Planar Darlington Type

AF Output Amplifier

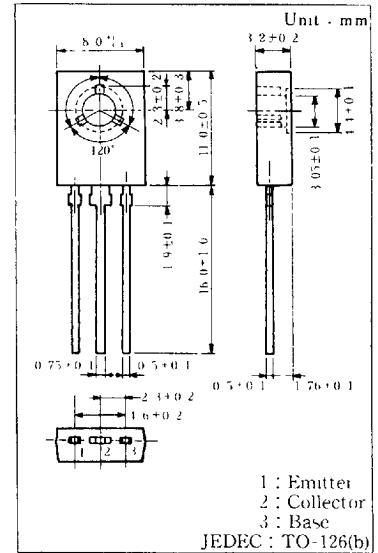
■ Features

- Darlington connection
- High DC current gain (h_{FE})
- High collector current (I_C)
- High collector-emitter voltage (V_{CE0})

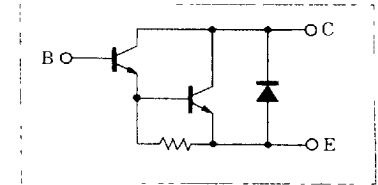
■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CB0}	120	V
Collector-emitter voltage	V_{CE0}	100	V
Emitter-base voltage	V_{EB0}	5	V
Peak collector current	I_{CP}	3	A
Collector current	I_C	2	A
Collector power dissipation	P_C	1.2	W
Junction temperature	T_J	150	°C
Storage temperature	T_{STG}	-55 ~ +150	°C

■ Package Dimensions



■ Inner Circuit



■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min typ max			Unit
			min	typ	max	
Collector cutoff current	I_{CBO}	$V_{CB} = 25V, I_B = 0$			0.1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 4V, I_C = 0$			1	μA
Collector-base voltage	V_{CB0}	$I_C = 100\mu A, I_E = 0$	120			V
Collector-emitter voltage	V_{CE0}	$I_C = 1mA, I_B = 0$	100			V
Emitter-base voltage	V_{EB0}	$I_E = 100\mu A, I_C = 0$	5			V
DC current gain	h_{FE}^{*1}	$V_{CE} = 10V, I_C = 1A^{*2}$	4000		40000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1A, I_B = 1mA^{*2}$			1.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1A, I_B = 1mA^{*2}$			2	V
Transition frequency	f_T	$V_{CB} = 10V, I_E = -50mA, f = 200MHz$		150		MHz

*1:ハリス測定

*1 h_{FE} Classifications

Class	Q	R	S
h_{FE}	4000 ~ 10000	8000 ~ 20000	16000 ~ 40000

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