

2SD1304

Silicon NPN epitaxial planer type

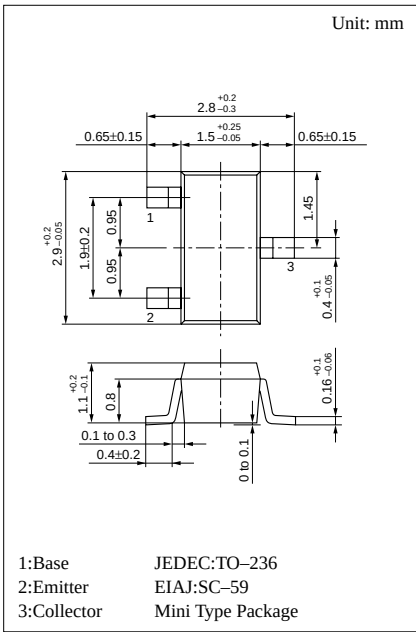
For low-frequency amplification

Features

- Zener diode built in.
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

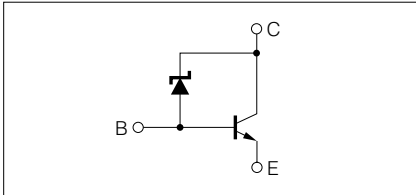
Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	20 ± 3	V
Collector to emitter voltage	V_{CEO}	20 ± 3	V
Emitter to base voltage	V_{EBO}	7	V
Peak collector current	I_{CP}	200	mA
Collector current	I_C	100	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	$-55 \sim +150$	°C



Marking symbol : 2A

Internal Connection



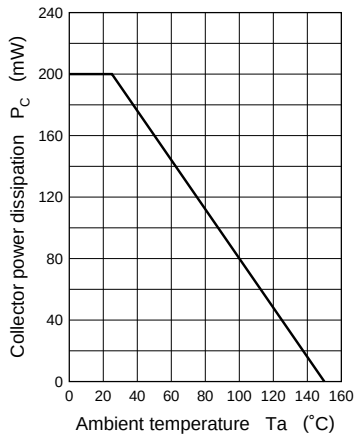
Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 10V, I_E = 0$			0.1	μA
Collector to emitter voltage	V_{CEO}	$I_C = 1mA, I_B = 0$	17		23	V
Emitter to base voltage	V_{EBO}	$I_E = 10\mu A, I_C = 0$	7			V
Forward current transfer ratio	h_{FE1}^*	$V_{CE} = 10V, I_C = 2mA$	160		460	
	h_{FE2}	$V_{CE} = 2V, I_C = 100mA$	90			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100mA, I_B = 10mA$			0.5	V
Transition frequency	f_T	$V_{CB} = 10V, I_E = -2mA, f = 200MHz$		150		MHz

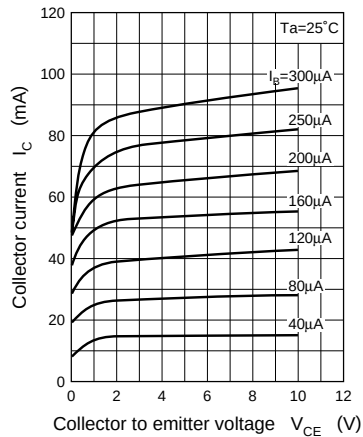
* h_{FE1} Rank classification

Rank	Q	R	S
h_{FE1}	160 ~ 260	210 ~ 340	290 ~ 460
Marking Symbol	2AQ	2AR	2AS

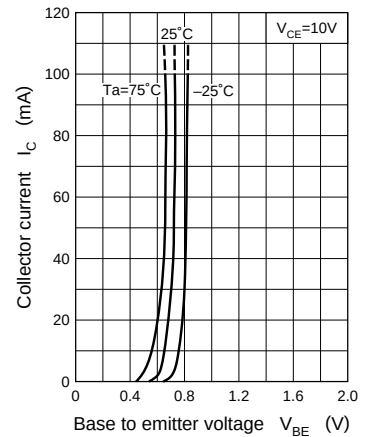
$P_C - T_a$



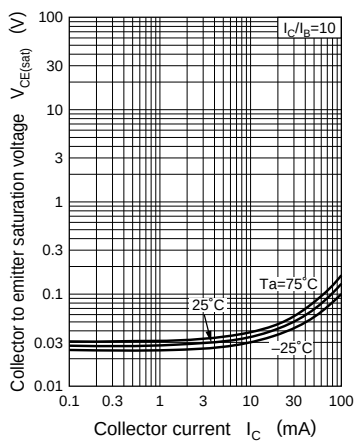
$I_C - V_{CE}$



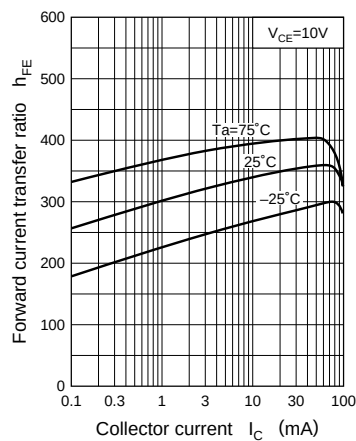
$I_C - V_{BE}$



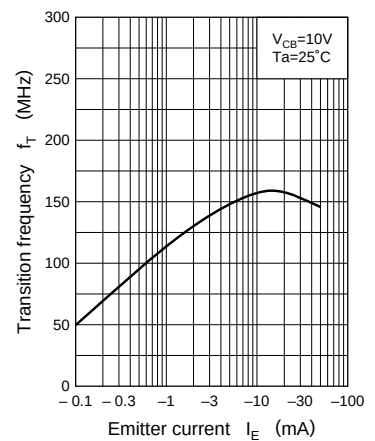
$V_{CE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$

