

2SD1149

Silicon NPN epitaxial planer type

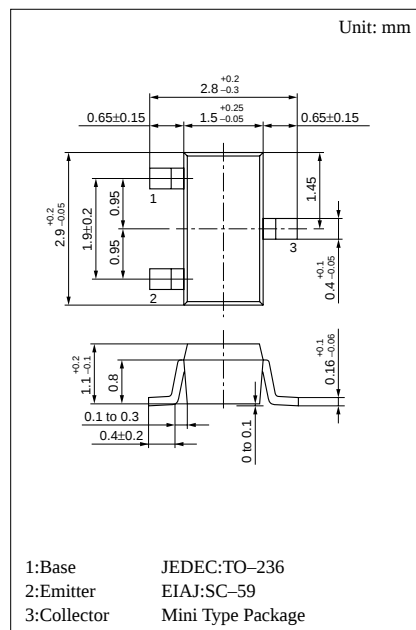
For low-frequency amplification

Features

- High forward current transfer ratio h_{FE} .
- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- High emitter to base voltage V_{EBO} .
- 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}	100	V
Collector to emitter voltage	V_{CEO}	100	V
Emitter to base voltage	V_{EBO}	15	V
Peak collector current	I_{CP}	50	mA
Collector current	I_C	20	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C



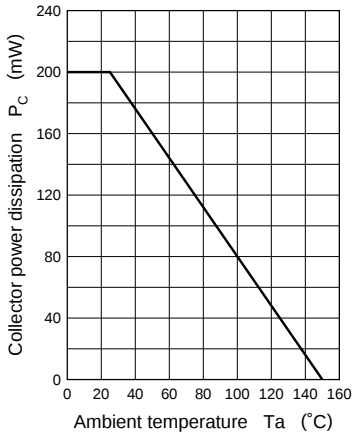
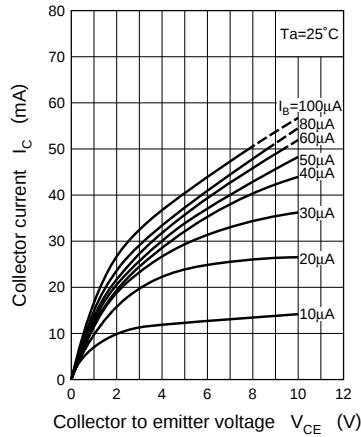
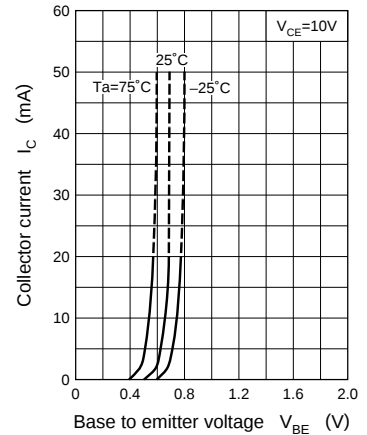
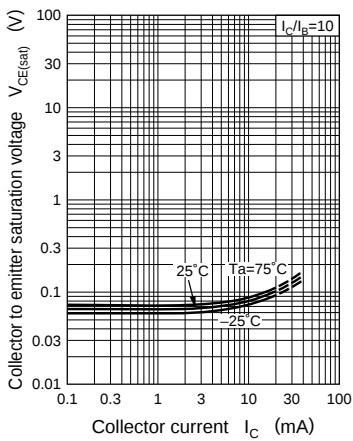
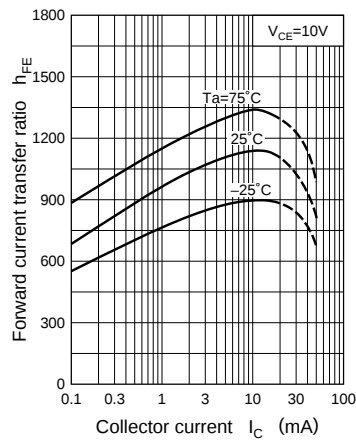
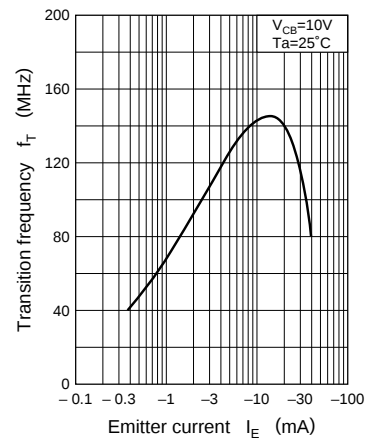
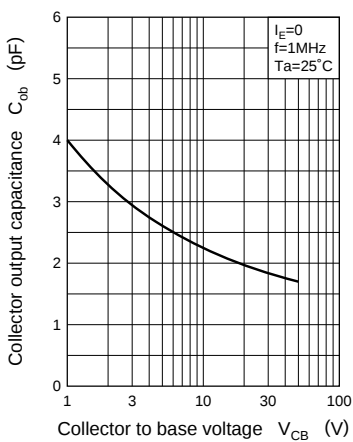
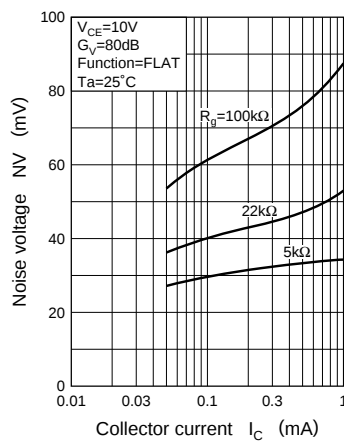
Marking symbol : 1V

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 60V, I_E = 0$			100	nA
	I_{CEO}	$V_{CE} = 60V, I_B = 0$			1	μA
Collector to base voltage	V_{CBO}	$I_C = 10\mu A, I_E = 0$	100			V
Collector to emitter voltage	V_{CEO}	$I_C = 1mA, I_B = 0$	100			V
Emitter to base voltage	V_{EBO}	$I_E = 10\mu A, I_C = 0$	15			V
Forward current transfer ratio	h_{FE}^*	$V_{CE} = 10V, I_C = 2mA$	400		1200	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10mA, I_B = 1mA$		0.05	0.2	V
Transition frequency	f_T	$V_{CB} = 10V, I_E = -2mA, f = 200MHz$		100		MHz

*1 h_{FE1} Rank classification

Rank	R	S
h_{FE}	400 ~ 800	600 ~ 1200
Marking Symbol	1VR	1VS

$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $C_{ob} - V_{CB}$  $NV - I_C$  $NV - V_{CE}$ 