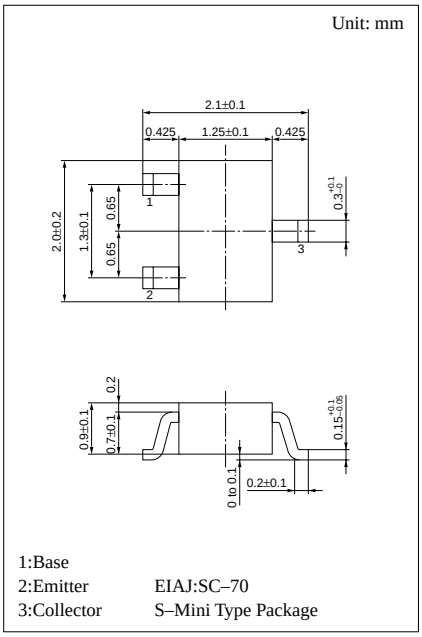
2SD1979

Silicon NPN epitaxial planer type

For low-voltage output amplification
For muting
For DC-DC converter



Marking symbol : 3W

Features

- Low ON resistance R_{on}.
- High foward current transfer ratio h_{FE}.
- S-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}	50	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	25	V
Peak collector current	I_{CP}	500	mA
Collector current	I_C	300	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚C

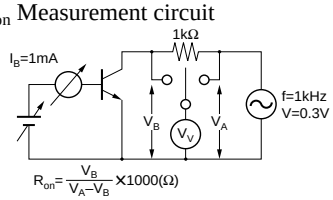
Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 50V, I_E = 0			1	μA
Emitter cutoff current	I_{EBO}	V_{EB} = 25V, I_C = 0			1	μA
Collector to emitter voltage	V_{CEO}	I_C = 1mA, I_B = 0	20			V
Forward current transfer ratio	h_{FE} *1	V_{CE} = 2V, I_C = 4mA	500		2500	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 30mA, I_B = 3mA			0.1	V
Base to emitter voltage	V_{BE}	V_{CE} = 2V, I_C = 4mA		0.6		V
Transition frequency	f_T	V_{CB} = 6V, I_E = –4mA, f = 200MHz		80		MHz
Collector output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz		4.5		pF
ON resistanse	R_{on} *2			1.0		Ω

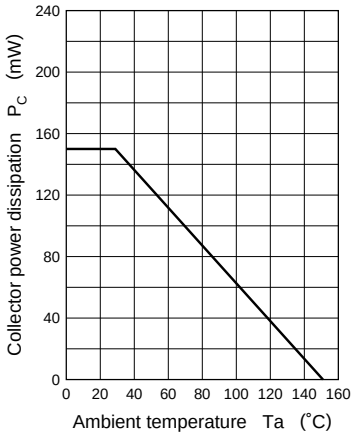
*1 h_{FE} Rank classification

Rank	S	T
h_{FE}	500 ~ 1500	800 ~ 2500
Marking Symbol	3WS	3WT

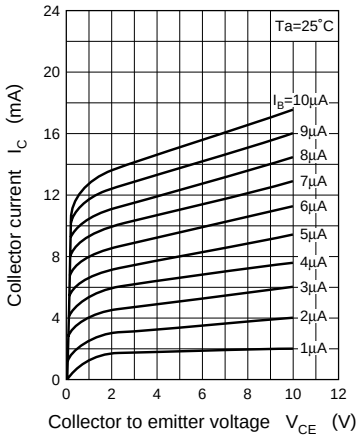
*2 R_{on} Measurement circuit



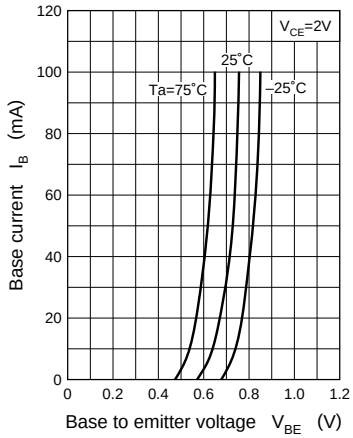
P_C — Ta



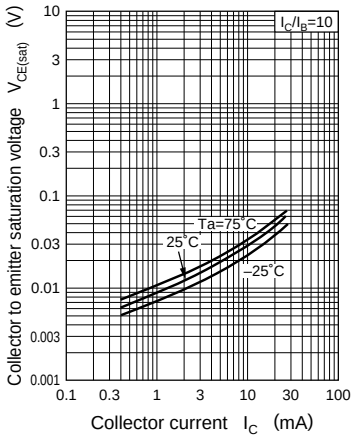
I_C — V_{CE}



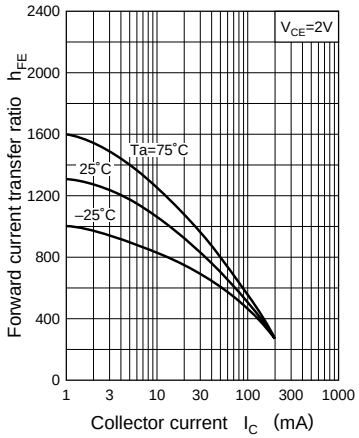
I_C — V_{BE}



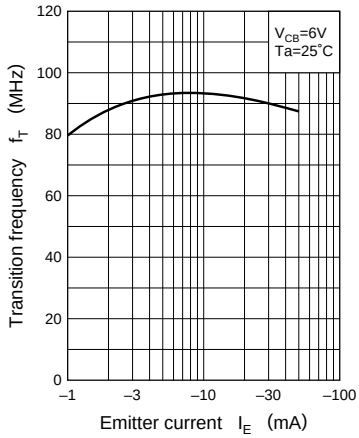
$V_{CE(sat)}$ — I_C



h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}