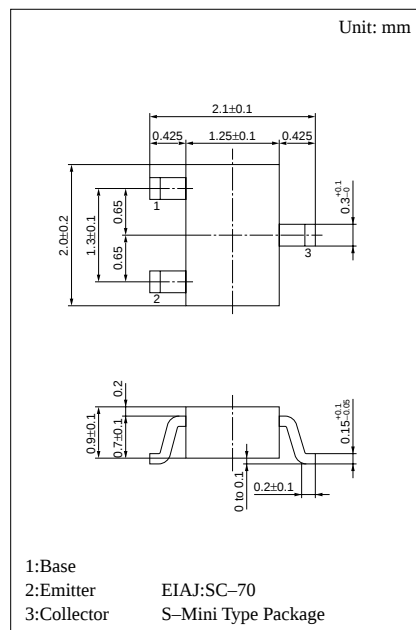


Silicon NPN epitaxial planer type

For DC-DC converter

- Low ON resistance R_{on} .
- High forward 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.

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



Marking symbol : 3W

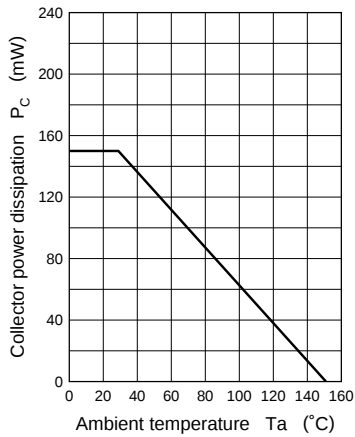
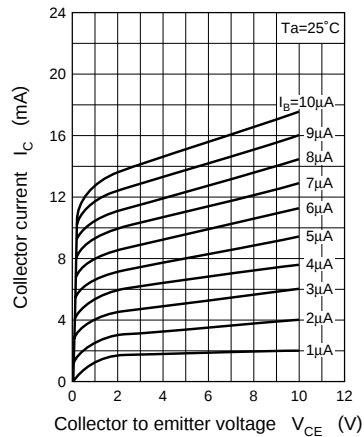
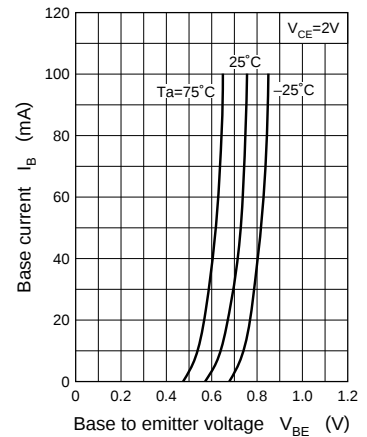
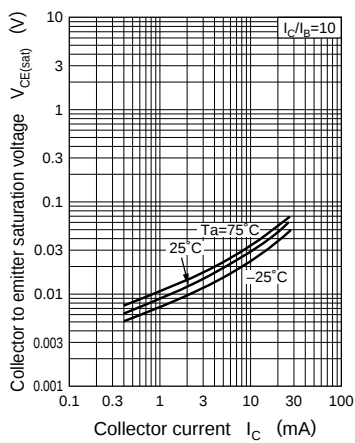
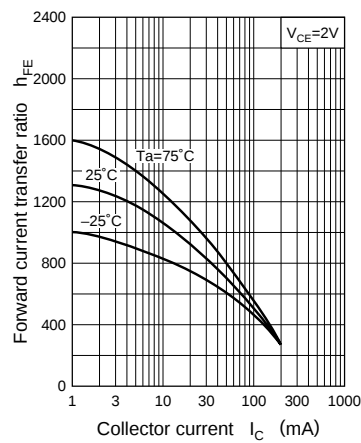
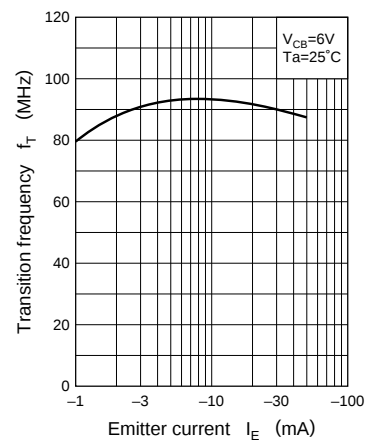
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 50V, I_E = 0$			1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 25V, I_C = 0$			1	μA
Collector to emitter voltage	V_{CEO}	$I_C = 1mA, I_B = 0$	20			V
Forward current transfer ratio	h_{FE}^{*1}	$V_{CE} = 2V, I_C = 4mA$	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 resistance	R_{on}^{*2}			1.0		Ω

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

$I_B = 1\text{mA}$

$f = 1\text{kHz}$
 $V = 0.3\text{V}$

$R_{on} = \frac{V_B}{V_A - V_B} \times 1000 (\Omega)$

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