

2SD2225

Silicon NPN epitaxial planer type

For low-frequency amplification
Complementary to 2SB1473

Features

- High collector to emitter voltage V_{CEO} of 120V.
- Optimum for low-frequency driver amplification.
- Allowing supply with the radial taping.

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	120	V
Collector to emitter voltage	V_{CEO}	120	V
Emitter to base voltage	V_{EBO}	5	V
Peak collector current	I_{CP}	1	A
Collector current	I_C	0.5	A
Collector power dissipation	P_C^*	1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

* Printed circuit board: Copper foil area of 1cm^2 or more, and the board thickness of 1.7mm for the collector portion

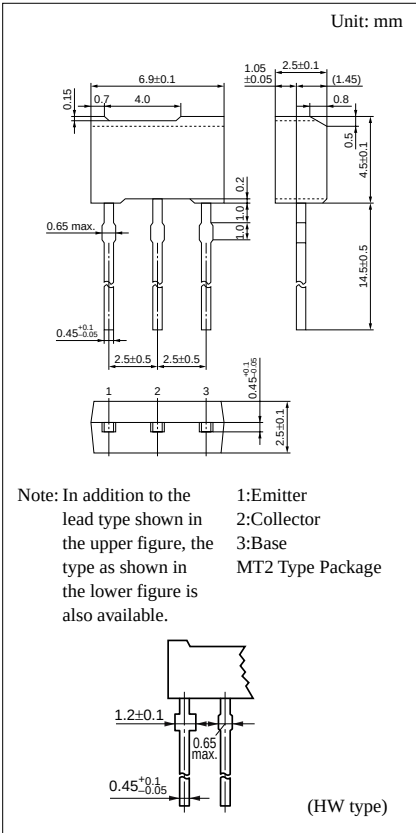
Electrical Characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to emitter voltage	V_{CEO}	$I_C = 0.1\text{mA}$, $I_B = 0$	120			V
Emitter to base voltage	V_{EBO}	$I_E = 10\mu\text{A}$, $I_C = 0$	5			V
Forward current transfer ratio	h_{FE1}^{*1}	$V_{CE} = 10\text{V}$, $I_C = 150\text{mA}^{*2}$	90		330	
	h_{FE2}	$V_{CE} = 5\text{V}$, $I_C = 500\text{mA}^{*2}$	50			
	h_{FE3}	$V_{CE} = 5\text{V}$, $I_C = 100\text{mA}^{*2}$	100			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 300\text{mA}$, $I_B = 30\text{mA}^{*2}$		0.15	1	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 300\text{mA}$, $I_B = 30\text{mA}^{*2}$		0.9	1.2	V
Transition frequency	f_T	$V_{CB} = 10\text{V}$, $I_E = -50\text{mA}$, $f = 200\text{MHz}^{*2}$		200		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$		11.5	20	pF

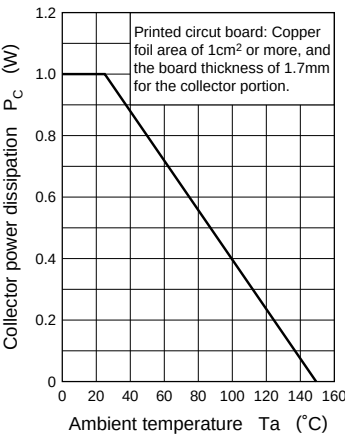
^{*2} Pulse measurement

^{*1} h_{FE1} Rank classification

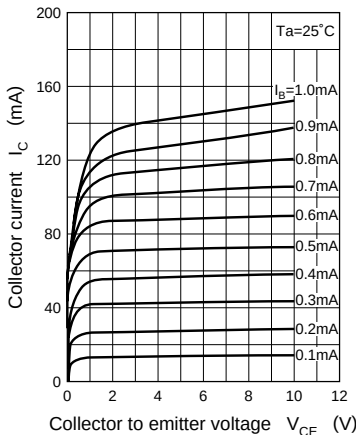
Rank	Q	R	S
h_{FE1}	90 ~ 155	130 ~ 220	185 ~ 330



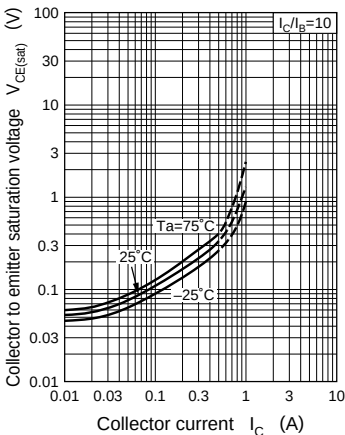
$P_C - T_a$



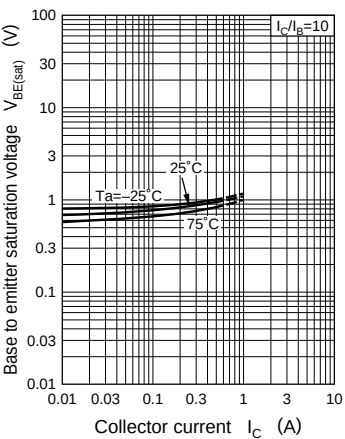
$I_C - V_{CE}$



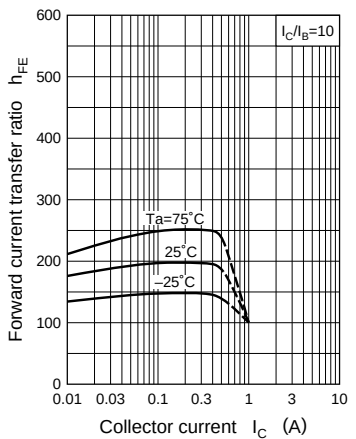
$V_{CE(sat)} - I_C$



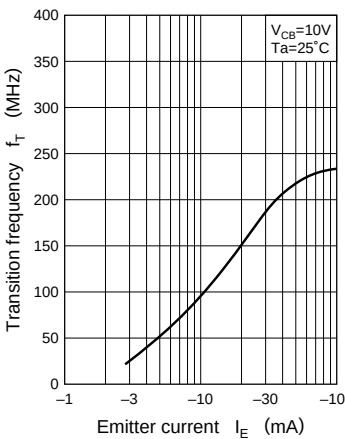
$V_{BE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$

