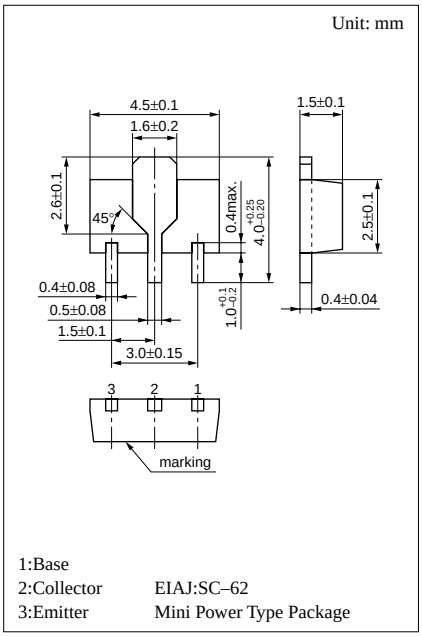
2SD875

Silicon NPN epitaxial planer type

For low-frequency power amplification
Complementary to 2SB767



Marking symbol : X

Features

- Large collector power dissipation P_C.
- High collector to emitter voltage V_{CEO}.
- Mini Power 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}	80	V
Collector to emitter voltage	V_{CEO}	80	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	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚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 (Ta=25˚C)

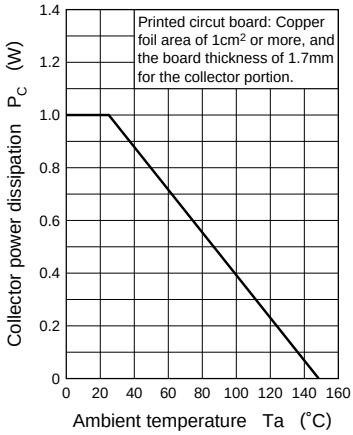
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 20V, I_E = 0			0.1	μA
Collector to base voltage	V_{CBO}	I_C = 10μA, I_E = 0	80			V
Collector to emitter voltage	V_{CEO}	I_C = 100μA, I_B = 0	80			V
Emitter to base voltage	V_{EBO}	I_E = 10μA, I_C = 0	5			V
Forward current transfer ratio	h_{FE1}*1	V_{CE} = 10V, I_C = 150mA*2	130		330	
	h_{FE2}	V_{CE} = 5V, I_C = 500mA*2	50	100		
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 300mA, I_B = 30mA*2		0.2	0.4	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = 300mA, I_B = 30mA*2		0.85	1.2	V
Transition frequency	f_T	V_{CB} = 10V, I_E = –50mA*2, f = 200MHz		120		MHz
Collector output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz		11		pF

*2 Pulse measurement

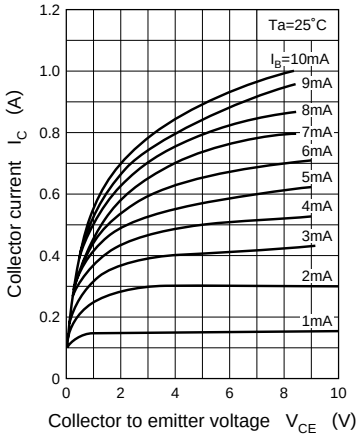
*1 h_{FE1} Rank classification

Rank	R	S
h_{FE1}	130 ~ 220	185 ~ 330
Marking Symbol	XR	XS

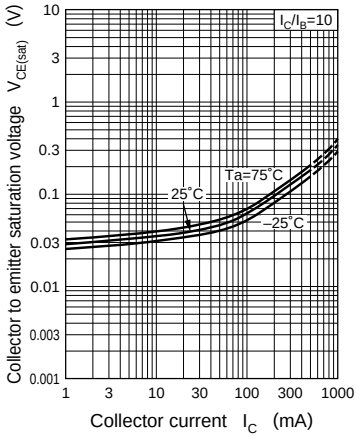
P_C — Ta



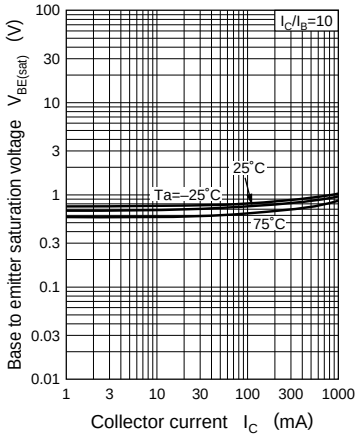
I_C — V_{CE}



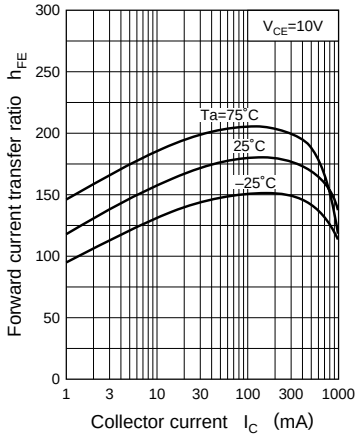
$V_{CE(sat)}$ — I_C



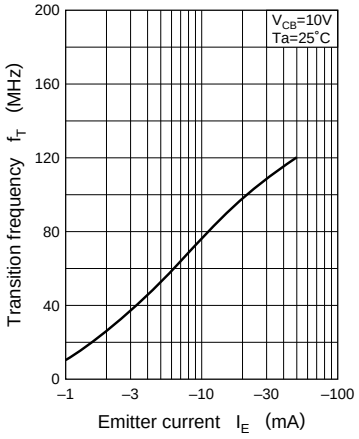
$V_{BE(sat)}$ — I_C



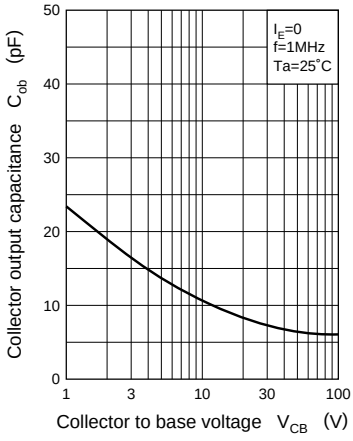
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



Area of safe operation (ASO)

