UNR7231 (UN7231)

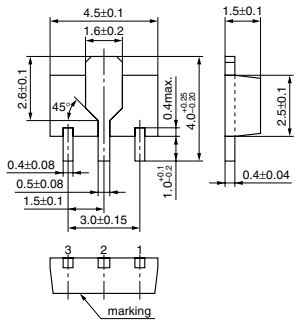
Silicon NPN epitaxial planer transistor

For amplification of the low frequency

Features

- High forward current transfer ratio h_{FE}.
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.

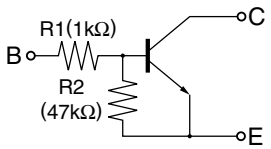
Unit: mm



1 : Emitter
2 : Collector
3 : Base
EIAJ : SC–62
Mini-Power Type Package

Marking Symbol: IC

Internal Connection



Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	20	V
Collector to emitter voltage	V_{CEO}	20	V
Collector current	I_C	0.7	A
Peak collector current	I_{CP}	1.5	A
Total power dissipation	P_T*	1.0	W
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 to +150	˚C

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

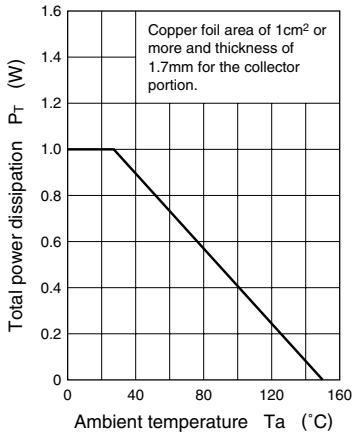
Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 15V, I_E = 0			1	µA
	I_{CEO}	V_{CE} = 15V, I_B = 0			10	µA
Emitter cutoff current	I_{EBO}	V_{EB} = 14V, I_C = 0			0.5	mA
Collector to base voltage	V_{CBO}	I_C = 10µA, I_E = 0	20			V
Collector to emitter voltage	V_{CEO}	I_C = 1mA, I_B = 0	20			V
Forward current transfer ratio	h_{FE}	V_{CE} = 10V, I_C = 150mA*	800		2100	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 500mA, I_B = 5mA*			0.4	V
Transition frequency	f_T	V_{CB} = 20V, I_E = –20mA, f = 200MHz		55		MHz
Input resistance	R_1		0.7	1	1.3	kΩ
Resistance ratio	R_1/R_2		0.016	0.021	0.025	

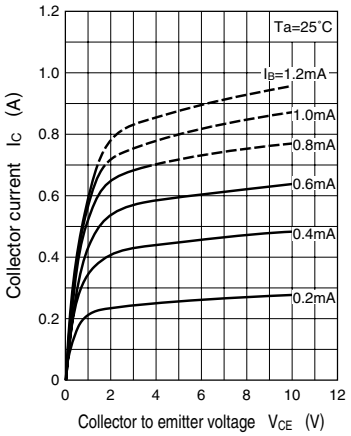
*Pulse measurement

Note.) The Part number in the Parenthesis shows conventional part number.

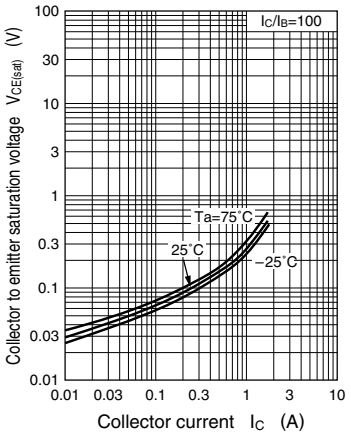
P_T — Ta



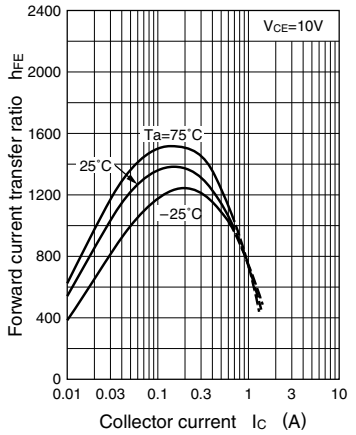
I_C — V_{CE}



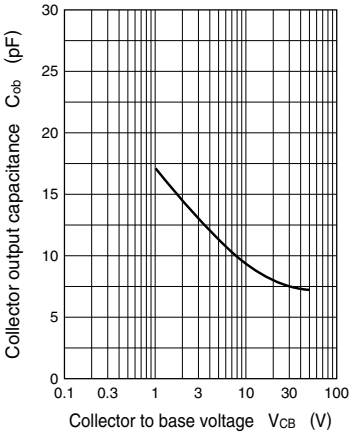
$V_{CE(sat)}$ — I_C



h_{FE} — I_C



C_{ob} — V_{CB}



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