

UNR7231 (UN7231)

Silicon NPN epitaxial planar transistor

For amplification of the low frequency

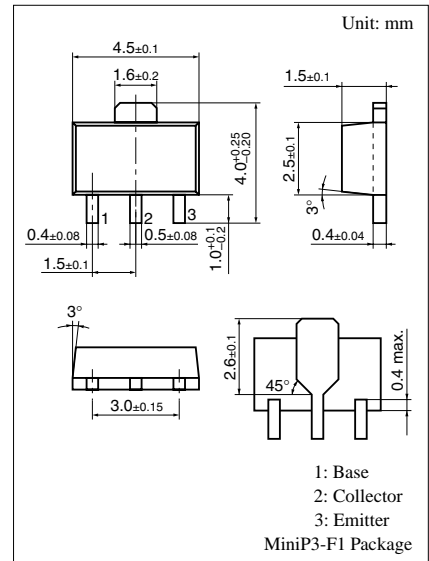
Features

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

Absolute Maximum Ratings (Ta=25°C)

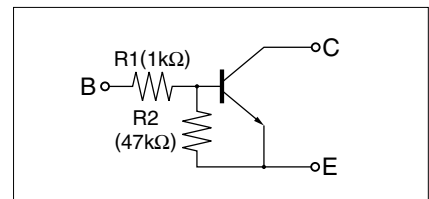
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	20	V
Collector to emitter voltage	V_{CEO}	20	V
Collector current	I_C	0.7	A
Peak collector current	I_{CP}	1.5	A
Total power dissipation	P_T^*	1.0	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

* Printed circuit board: Copper foil area of 1cm² or more and thickness of 1.7mm for the collector portion.



Marking Symbol: IC

Internal Connection



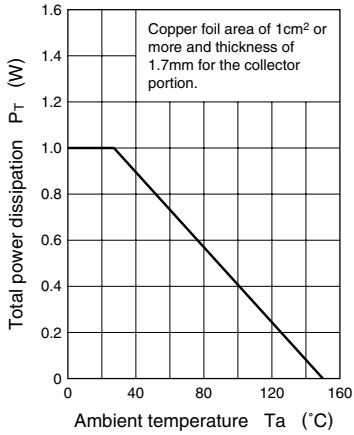
Electrical Characteristics (Ta=25°C)

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}	$I_C = 10\mu A, I_E = 0$	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	

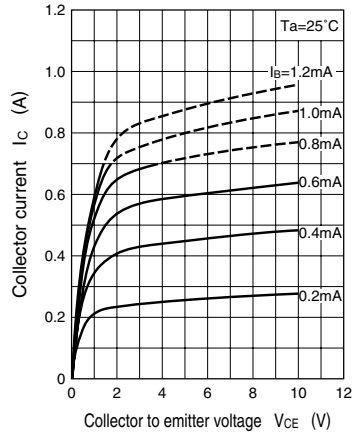
*Pulse measurement

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

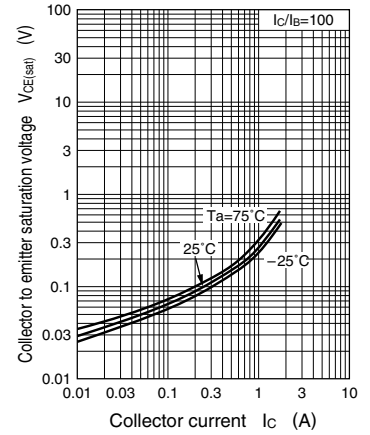
$P_T - T_a$



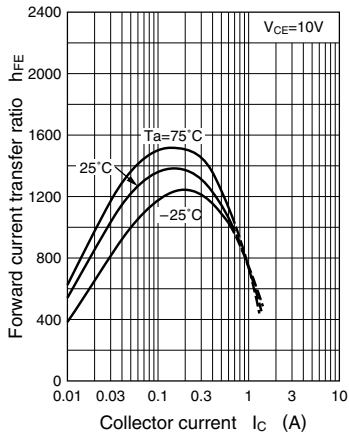
$I_C - V_{CE}$



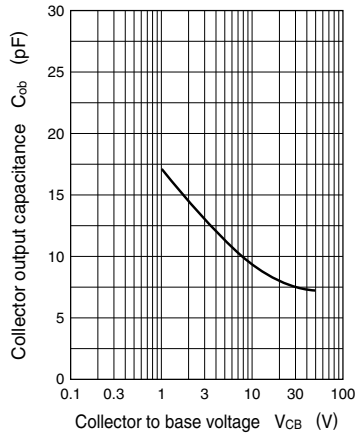
$V_{CE(sat)} - I_C$



$h_{FE} - I_C$



$C_{ob} - V_{CB}$



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