

UNR8231/UNR8231A (UN8231/UN8231A)

Silicon NPN epitaxial planer transistor

For switching

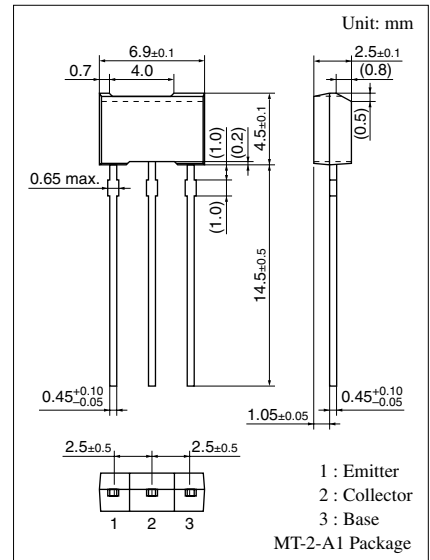
Features

- High forward current transfer ratio h_{FE} .
- Resistor built-in type, allowing downsizing of the equipment and reduction of the number of parts.
- Available in a type with radial taping.

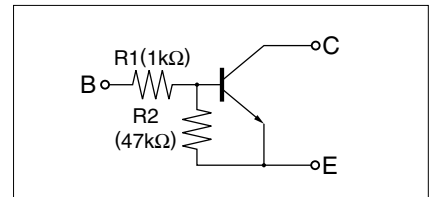
Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rated	Unit
Collector to base voltage	UNR8231	20	V
	UNR8231A	60	
Collector to emitter voltage	UNR8231	20	V
	UNR8231A	50	
Peak collector current	I_{CP}	1.5	A
Collector current	I_C	0.7	A
Total power dissipation	P_T^*	1	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.



Internal Connection



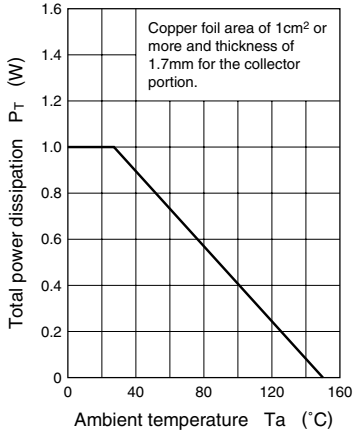
Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 15V, I_E = 0$			1	μA
Collector cutoff current	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	UNR8231	$I_C = 10\mu A, I_E = 0$	20			V
	UNR8231A		60			
Collector to emitter voltage	UNR8231	$I_C = 1mA, I_B = 0$	20			V
	UNR8231A		50			
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
Input resistance	R_I		0.7	1	1.3	k Ω
Resistance ratio		R_1/R_2	0.016	0.021	0.025	
Transition frequency	f_T	$V_{CB} = 10V, I_E = -50mA, f = 200MHz$		200		MHz

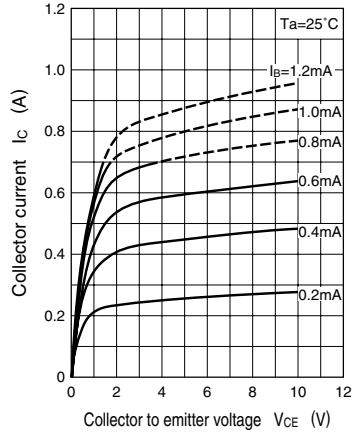
*Pulse measurement

Note) The Part numbers in the Parenthesis show conventional part number.

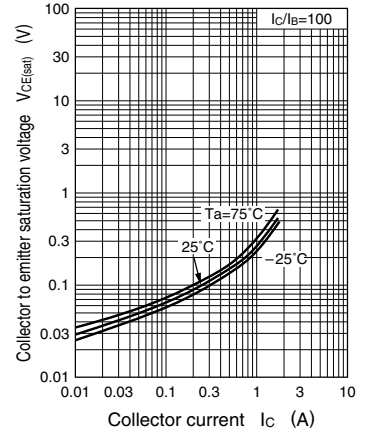
$P_T - T_a$



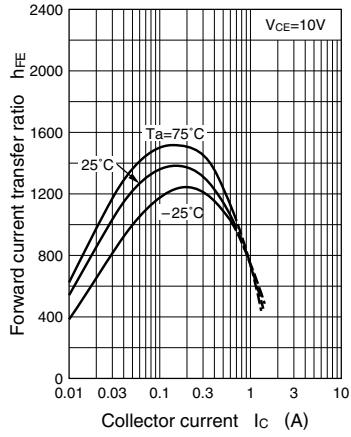
$I_C - V_{CE}$



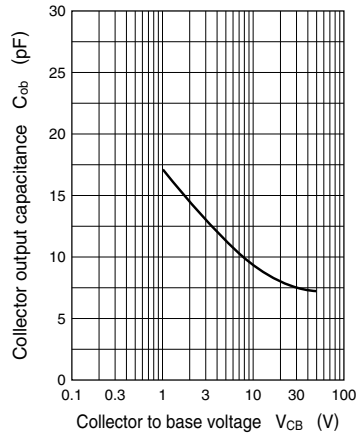
$V_{CE(sat)} - I_C$



$h_{FE} - I_C$



$C_{ob} - V_{CB}$



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