Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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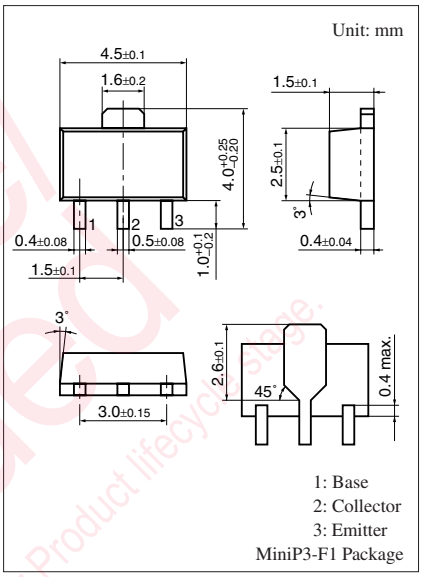
UNR7231 (UN7231)

Silicon NPN epitaxial planar type

For low-frequency amplification

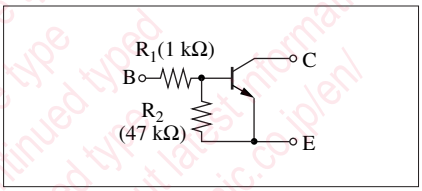
■ Features

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



Marking Symbol: IC

Internal Connection



■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	20	V
Collector-emitter voltage (Base open)	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

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

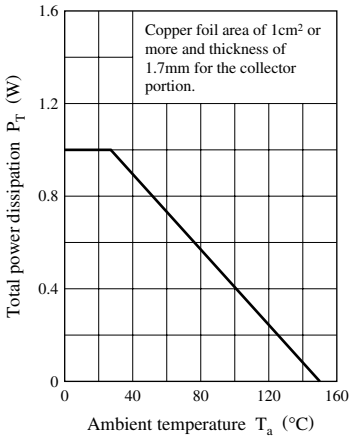
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	I_C = 10 µA, I_E = 0	20			V
Collector-emitter voltage (Base open)	V_{CEO}	I_C = 1 mA, I_B = 0	20			V
Collector-base cutoff current (Emitter open)	I_{CBO}	V_{CB} = 15 V, I_E = 0			1	µA
Collector-emitter cutoff current (Base open)	I_{CEO}	V_{CE} = 15 V, I_B = 0			10	µA
Emitter-base cutoff current (Collector open)	I_{EBO}	V_{EB} = 14 V, I_C = 0			0.5	mA
Forward current transfer ratio *	h_{FE}	V_{CE} = 10 V, I_C = 150 mA	800		2 100	—
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C = 500 mA, I_B = 5 mA			0.4	V
Input resistance	R_1		0.7	1.0	1.3	kΩ
Resistance ratio	R_1/R_2		0.016	0.021	0.025	—
Transition frequency	f_T	V_{CB} = 20 V, I_E = −20 mA, f = 200 MHz		55		MHz

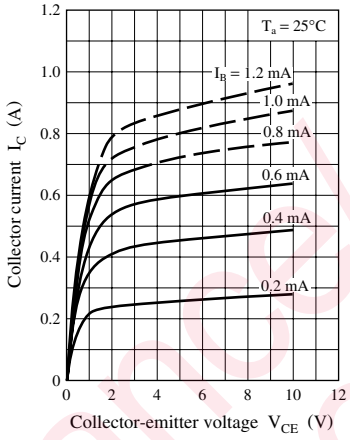
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. ∗: Pulse measurement

Note) The part number in the parenthesis shows conventional part number.

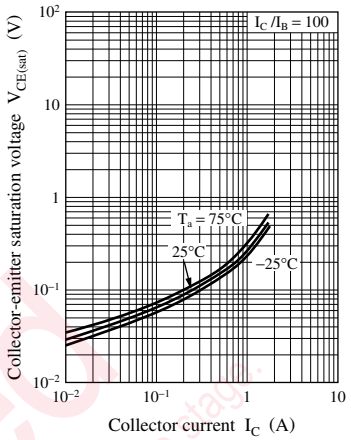
P_T — T_a



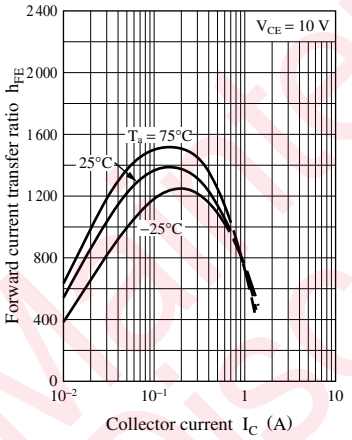
I_C — V_{CE}



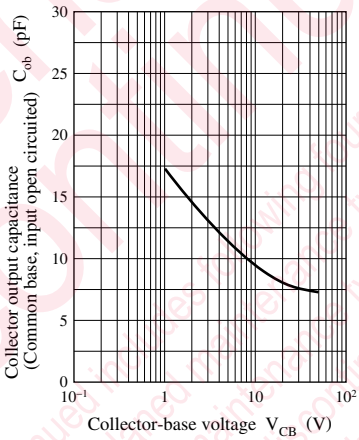
$V_{CE(sat)}$ — I_C



h_{FE} — I_C



C_{ob} — V_{CB}



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