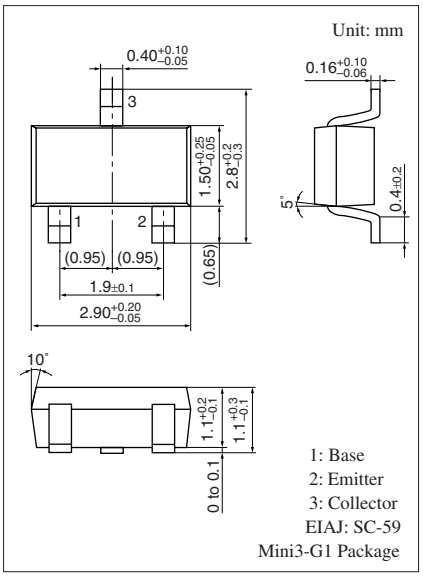
UNR2154 (UN2154)

Silicon PNP epitaxial planar type

For digital circuits

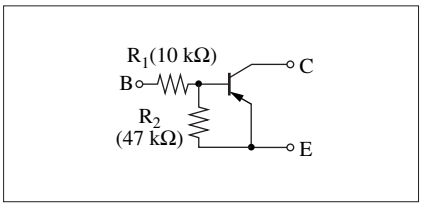
■ Features

- High forward current transfer ratio h_{FE}
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts
- Mini type package allowing easy automatic insertion through tape packing and magazine packing



Marking Symbol: EV

Internal Connection



■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	−30	V
Collector-emitter voltage (Base open)	V_{CEO}	−30	V
Collector current	I_C	−100	mA
Total power dissipation	P_T	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

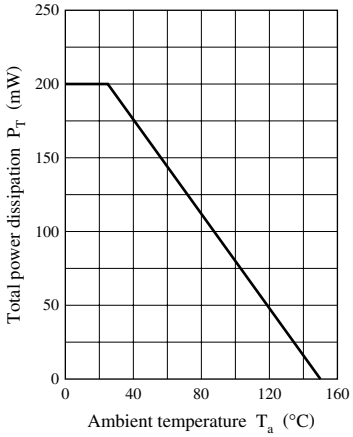
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = -10$ µA, $I_E = 0$	−30			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -2$ mA, $I_B = 0$	−30			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -30$ V, $I_E = 0$			− 0.1	µA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -30$ V, $I_B = 0$			− 0.5	µA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -3$ V, $I_C = 0$			− 0.1	mA
Forward current transfer ratio	h_{FE}	$V_{CE} = -10$ V, $I_C = -5$ mA	80			—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -50$ mA, $I_B = -0.33$ mA		− 0.5	−1.2	V
Output voltage high-level	V_{OH}	$V_{CC} = -5$ V, $V_B = -0.5$ V, $R_L = 1$ kΩ	−4.9			V
Output voltage low-level	V_{OL}	$V_{CC} = -5$ V, $V_B = -2.5$ V, $R_L = 1$ kΩ			− 0.2	V
Transition frequency	f_T	$V_{CB} = -10$ V, $I_E = 1$ mA, f = 200 MHz		80		MHz
Input resistance	R_1		−30%	10	+30%	kΩ
Resistance ratio	R_1/R_2			0.213		

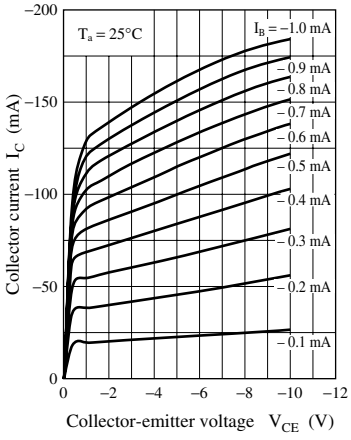
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

Note) The part numbers in the parenthesis show conventional part number.

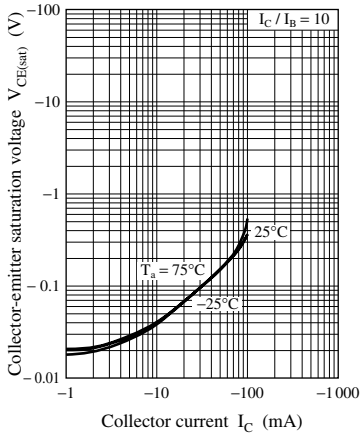
P_T — T_a



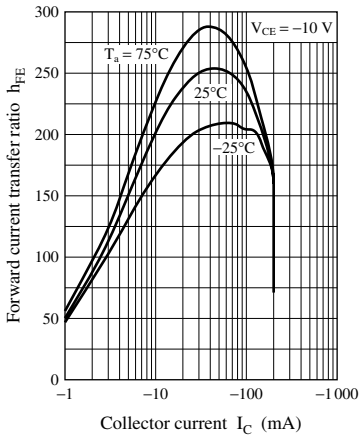
I_C — V_{CE}



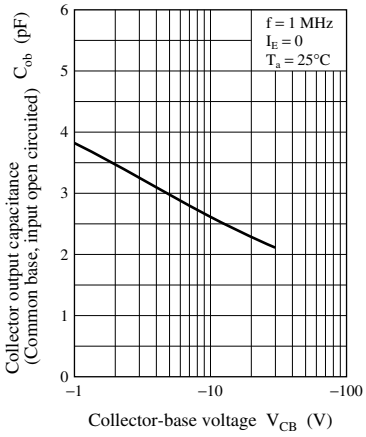
$V_{CE(sat)}$ — I_C



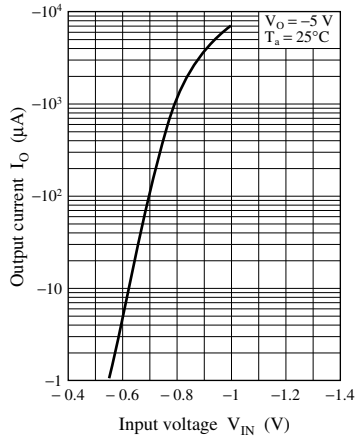
h_{FE} — I_C



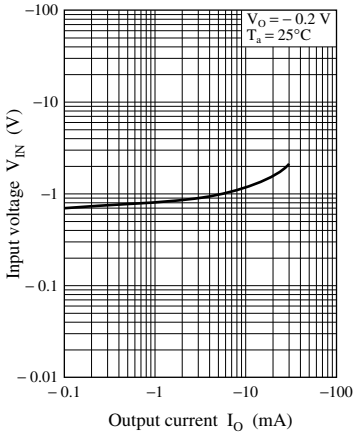
C_{ob} — V_{CB}



I_O — V_{IN}



V_{IN} — I_O



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