

# UNR2225 (UN2225), UNR2226 (UN2226), UNR2227 (UN2227)

Silicon NPN epitaxial planar type

For muting

### ■ Features

- 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

### ■ Resistance by Part Number

	Marking Symbol	(R <sub>1</sub> )	(R <sub>2</sub> )
• UNR2225 (UN2225)	FZ	10 kΩ	—
• UNR2226 (UN2226)	FY	4.7 kΩ	—
• UNR2227 (UN2227)	FW	6.8 kΩ	6.8 kΩ

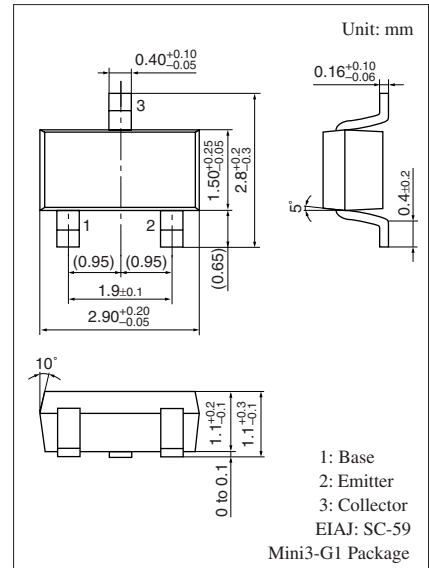
### ■ Absolute Maximum Ratings T<sub>a</sub> = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	30	V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	20	V
Emitter-base voltage (Collector open)	V <sub>EBO</sub>	5	V
Collector current	I <sub>C</sub>	600	mA
Total power dissipation	P <sub>T</sub>	200	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

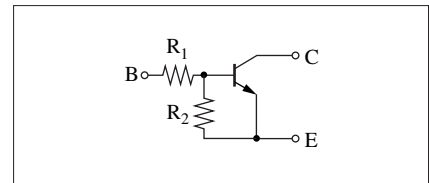
### ■ Electrical Characteristics T<sub>a</sub> = 25°C ± 3°C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	I <sub>C</sub> = 1 μA, I <sub>E</sub> = 0	30			V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	I <sub>C</sub> = 2 mA, I <sub>B</sub> = 0	20			V
Emitter-base voltage (Collector open)	V <sub>EBO</sub>	I <sub>E</sub> = 1 μA, I <sub>C</sub> = 0	5			V
Collector-base cutoff current (Emitter open)	I <sub>CBO</sub>	V <sub>CB</sub> = 30 V, I <sub>E</sub> = 0			1	μA
Emitter-base cutoff current (Collector open)	I <sub>EBO</sub>	V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0			1	μA
Forward current transfer ratio	h <sub>FE</sub>	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 100 mA	70			—
			100		600	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 50 mA, I <sub>B</sub> = 2.5 mA			80	mV
Input resistance	R <sub>1</sub>		-30%	4.7	+30%	kΩ
				6.8		
				10		
Resistance ratio	R <sub>1</sub> /R <sub>2</sub>		0.8	1.0	1.2	—

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



### Internal Connection

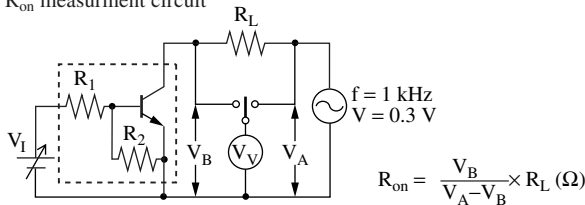


■ Electrical Characteristics (continued)  $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

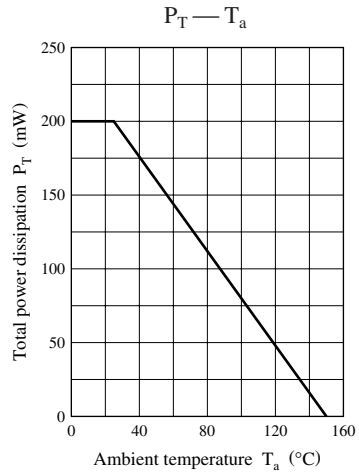
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Resistance ratio	UNR2226	$V_1 = 7\text{ V}, R_L = 1\text{ k}\Omega, f = 1\text{ kHz}$		0.95		$\Omega$
	UNR2227			1.1		
	UNR2225			1.5		
Transition frequency	$f_T$	$V_{CB} = 10\text{ V}, I_E = -50\text{ mA}, f = 200\text{ MHz}$		200		MHz

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

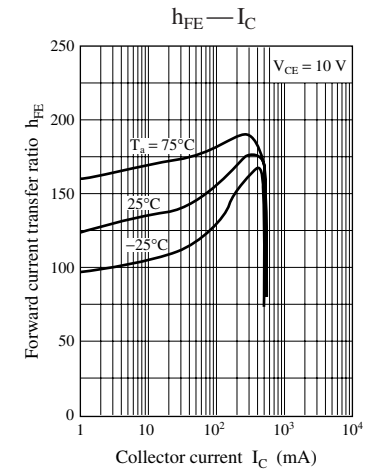
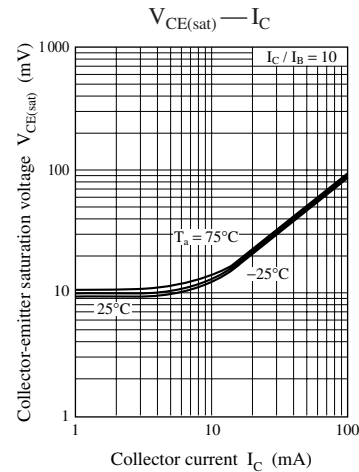
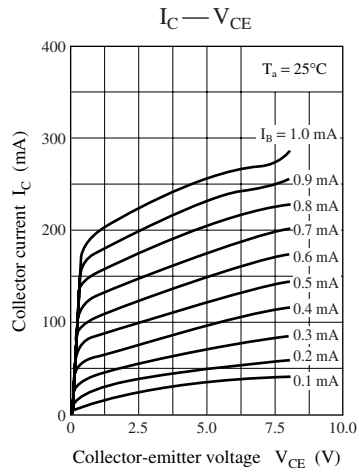
2. \*: Refer to  $R_{on}$  measurement circuit

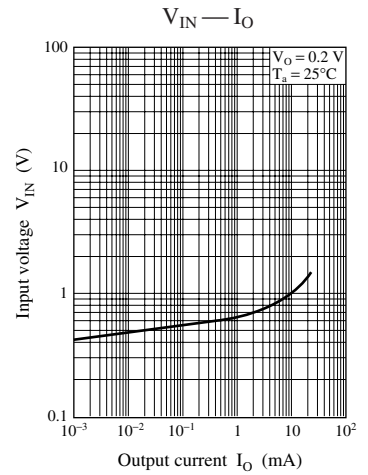
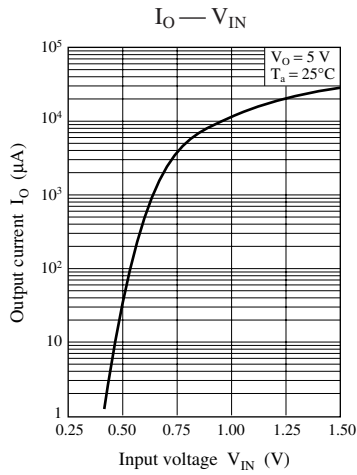
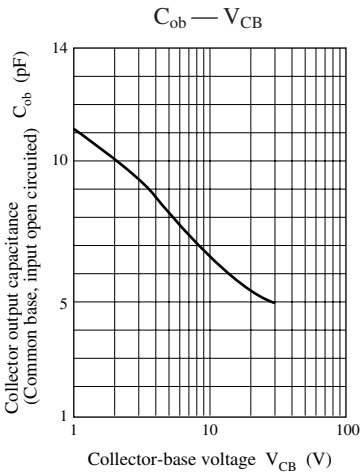


Common characteristics chart

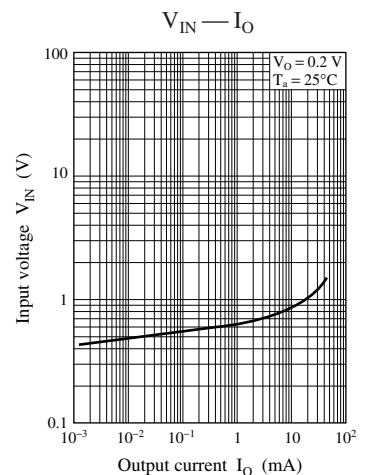
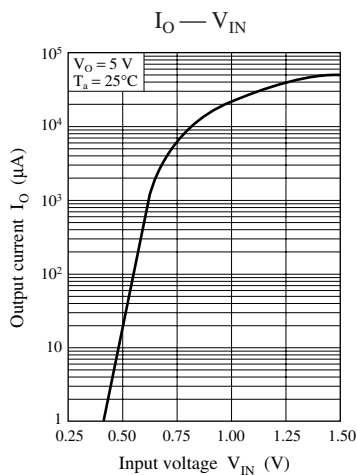
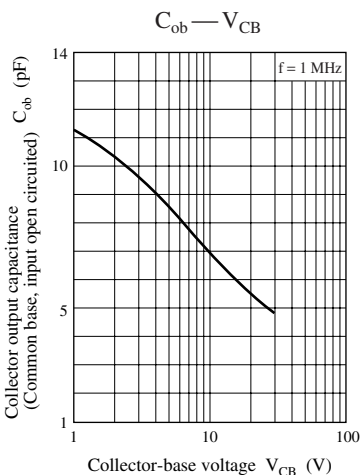
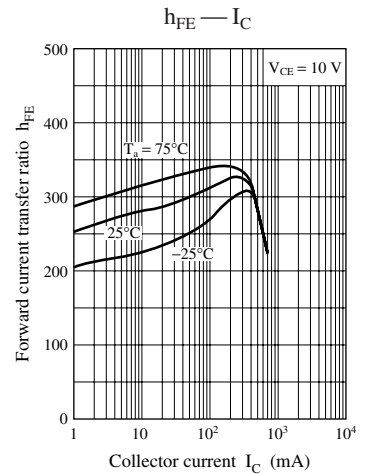
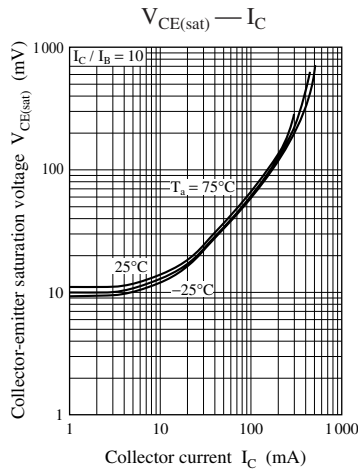
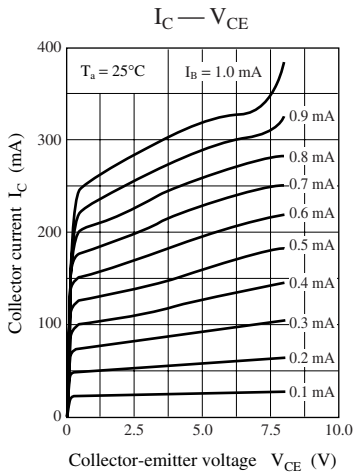


Characteristics charts of UNR2225

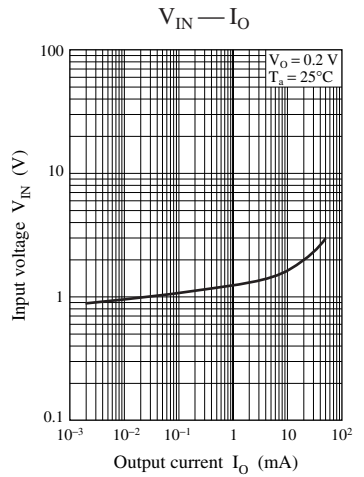
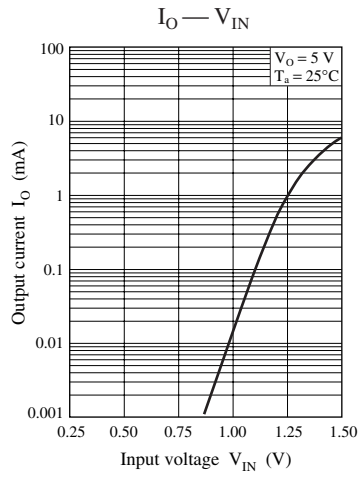
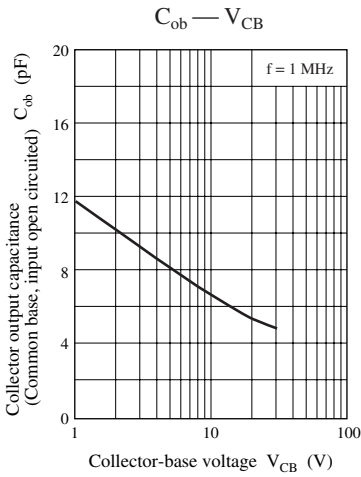
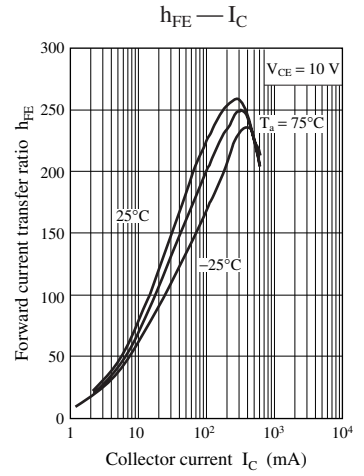
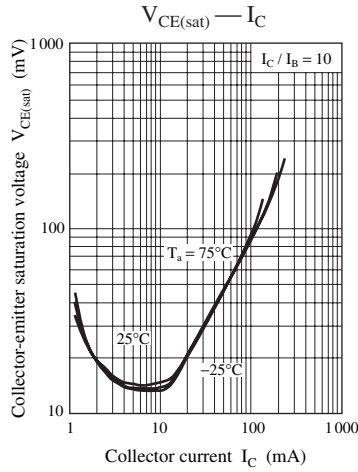
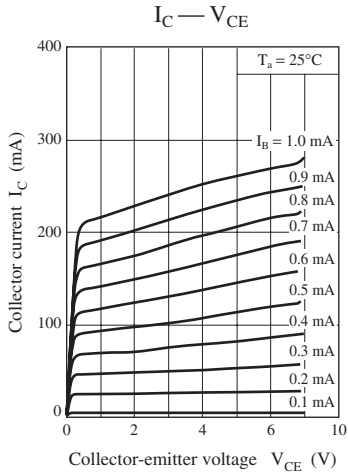




Characteristics charts of UNR2226



Characteristics charts of UNR2227



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