

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 ₁)	(R ₂)
• UNR2225 (UN2225)	FZ	10 kΩ	—
• UNR2226 (UN2226)	FY	4.7 kΩ	—
• UNR2227 (UN2227)	FW	6.8 kΩ	6.8 kΩ

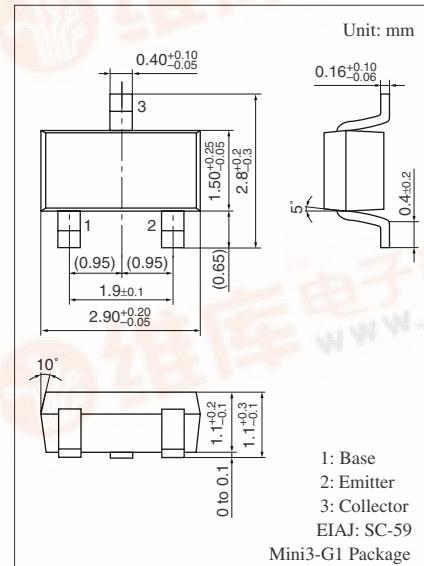
■ Absolute Maximum Ratings T_a = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V _{CBO}	30	V
Collector-emitter voltage (Base open)	V _{CEO}	20	V
Emitter-base voltage (Collector open)	V _{EBO}	5	V
Collector current	I _C	600	mA
Total power dissipation	P _T	200	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

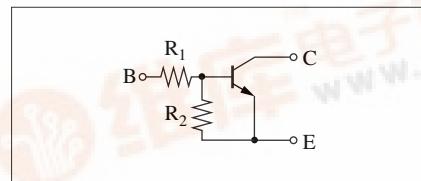
■ Electrical Characteristics T_a = 25°C ± 3°C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit	
Collector-base voltage (Emitter open)	V _{CBO}	I _C = 1 μA, I _E = 0	30			V	
Collector-emitter voltage (Base open)	V _{CEO}	I _C = 2 mA, I _B = 0	20			V	
Emitter-base voltage (Collector open)	V _{EBO}	I _E = 1 μA, I _C = 0	5			V	
Collector-base cutoff current (Emitter open)	I _{CBO}	V _{CB} = 30 V, I _E = 0			1	μA	
Emitter-base cutoff current (Collector open)	I _{EBO}	V _{EB} = 5 V, I _C = 0			1	μA	
Forward current	UNR2227	h _{FE}	V _{CE} = 10 V, I _C = 100 mA	70		—	
transfer ratio	UNR2225/2226			100		600	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 50 mA, I _B = 2.5 mA			80	mV	
Input resistance	UNR2226	R ₁		-30%	4.7	kΩ	
	UNR2227				6.8		
	UNR2225				10		
Resistance ratio	UNR2227	R ₁ /R ₂		0.8	1.0	1.2	—

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



Internal Connection

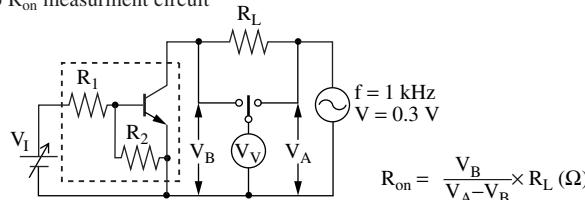


■ Electrical Characteristics (continued) $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

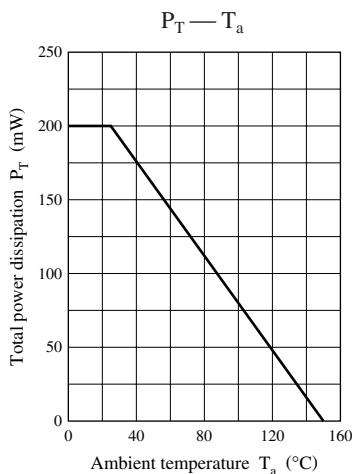
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Resistance ratio	R_{on}	$V_I = 7\text{ V}$, $R_L = 1\text{ k}\Omega$, $f = 1\text{ kHz}$		0.95		Ω
				1.1		
				1.5		
Transition frequency	f_T	$V_{CB} = 10\text{ V}$, $I_E = -50\text{ mA}$, $f = 200\text{ MHz}$		200		MHz

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

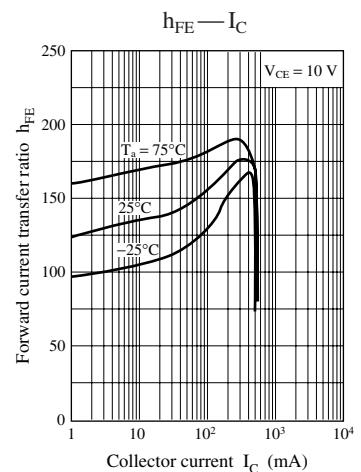
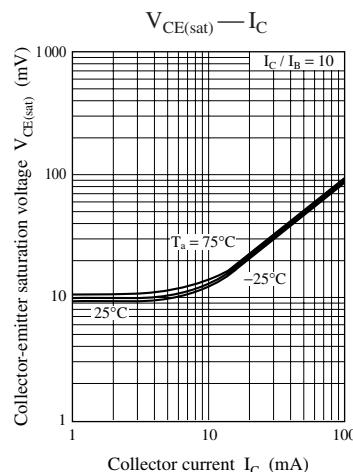
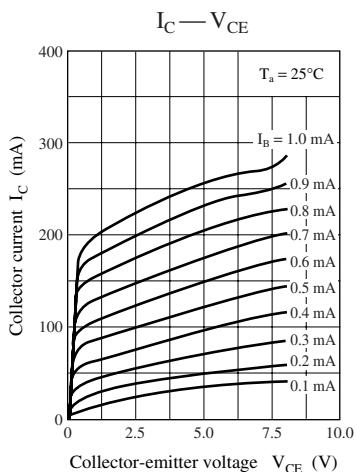
2. *: Refer to R_{on} measurement circuit

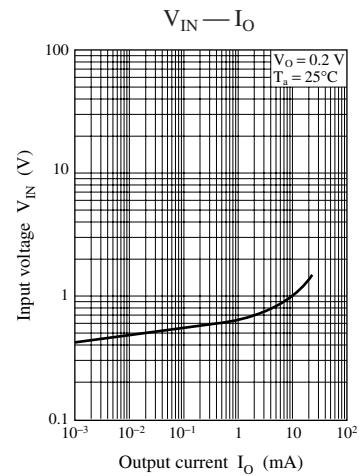
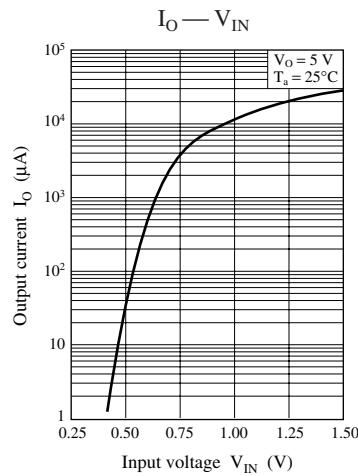
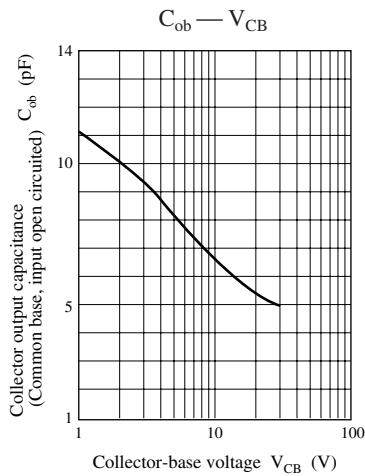


Common characteristics chart

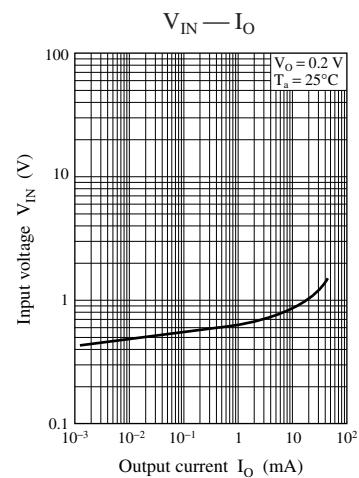
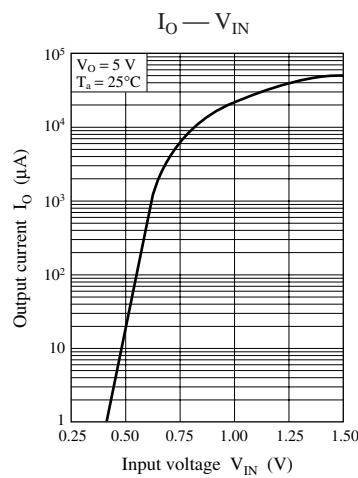
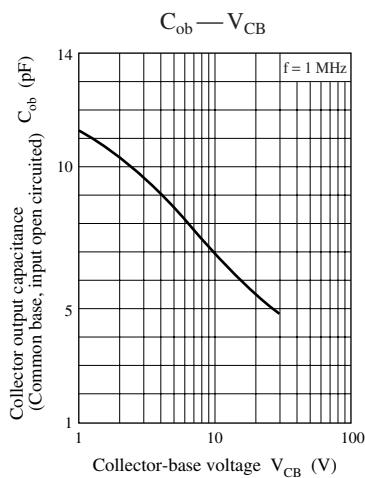
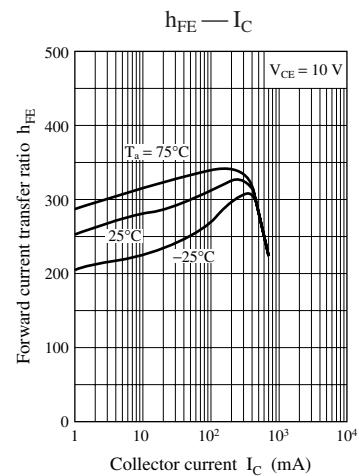
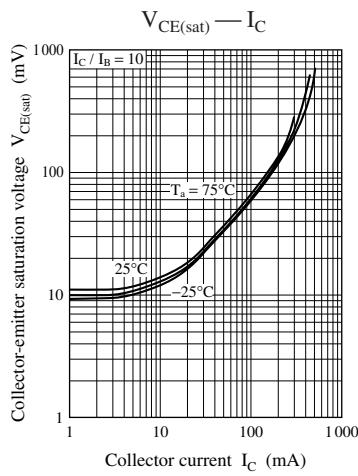
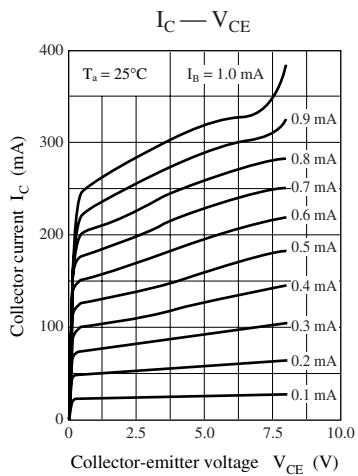


Characteristics charts of UNR2225

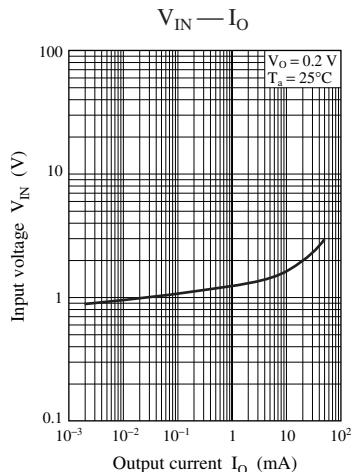
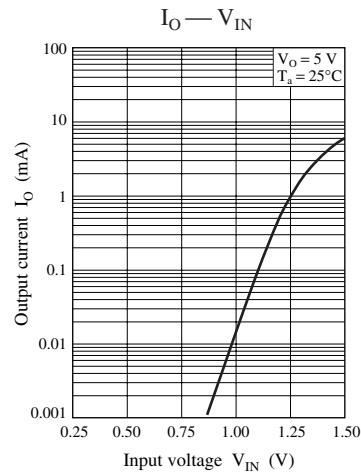
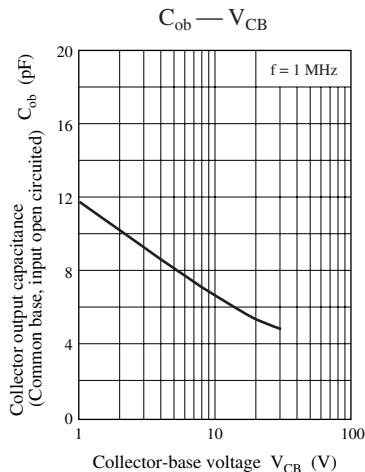
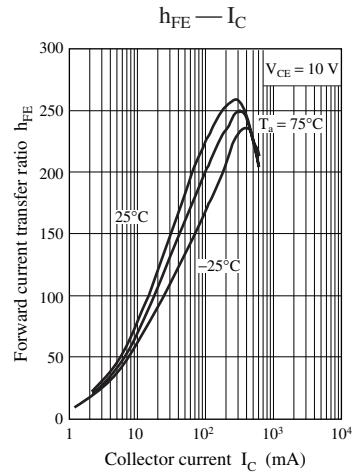
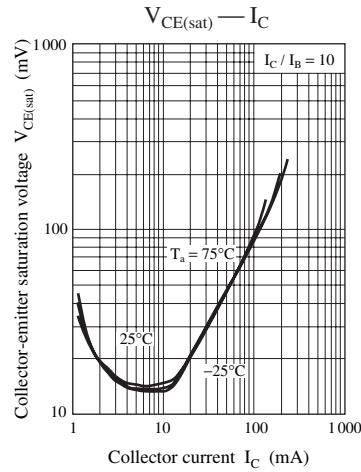
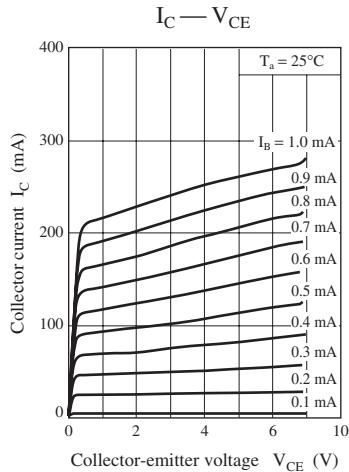




Characteristics charts of UNR2226



Characteristics charts of UNR2227



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