

# UNR5225/5226/5227

## Silicon NPN epitaxial planar type

For muting

### ■ Features

- Low collector-emitter saturation voltage  $V_{CE(sat)}$ , optimum for the muting circuit
- The use with high current value is possible

### ■ Resistance by Part Number

	Marking symbol	(R <sub>1</sub> )	(R <sub>2</sub> )
• UNR5225	FZ	10 kΩ	—
• UNR5226	FY	4.7 kΩ	—
• UNR5227	FW	6.8 kΩ	6.8 kΩ

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

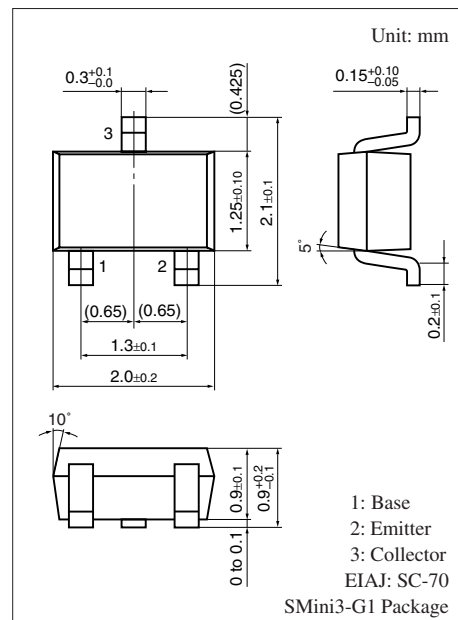
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	30	V
Collector-emitter voltage (Base open)	$V_{CEO}$	20	V
Emitter-base voltage (Collector open)	$V_{EBO}$	5	V
Collector current	$I_C$	600	mA
Total power dissipation	$P_T$	150	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

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

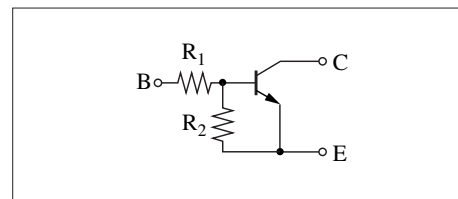
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = 1 \mu\text{A}$ , $I_E = 0$	30			V
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 1 \text{ mA}$ , $I_B = 0$	20			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 1 \mu\text{A}$ , $I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 30 \text{ V}$ , $I_E = 0$			1	μA
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = 5 \text{ V}$ , $I_C = 0$			1	μA
Forward current transfer ratio	UNR5227	$V_{CE} = 5 \text{ V}$ , $I_C = 50 \text{ mA}$	70		600	—
	UNR5225/5226					
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50 \text{ mA}$ , $I_B = 2.5 \text{ mA}$			80	mV
Input resistance	UNR5226	$R_1$	-30%	4.7	+30%	kΩ
	UNR5227			6.8		
	UNR5225			10		
Resistance ratio	UNR5227	$R_1/R_2$	0.8	1.0	1.2	—
ON resistance *	UNR5226	$R_{on}$	$V_1 = 7 \text{ V}$ , $R_L = 1 \text{ k}\Omega$ , $f = 1 \text{ kHz}$	0.95		Ω
	UNR5227			1.1		
	UNR5225			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

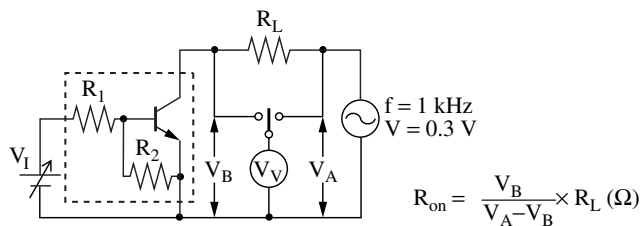


### Internal Connection

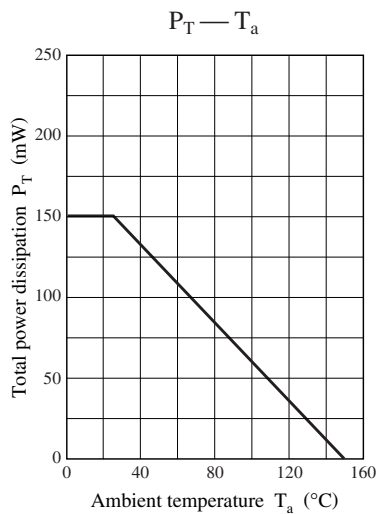


■ Electrical Characteristics (continued)  $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

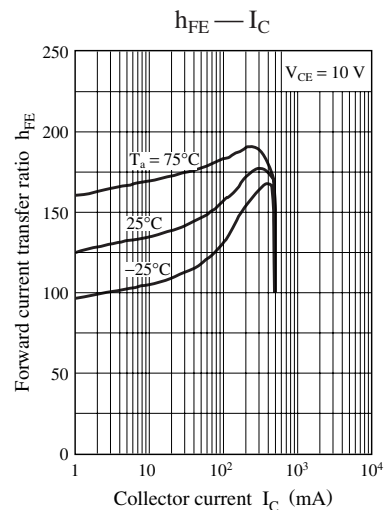
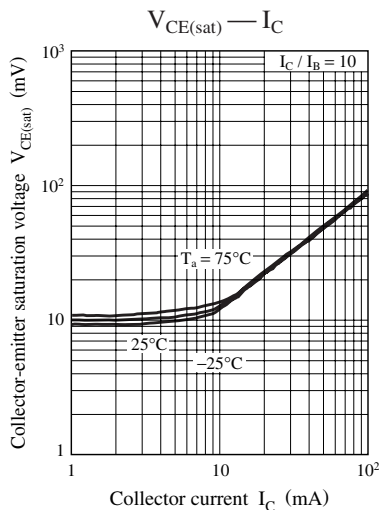
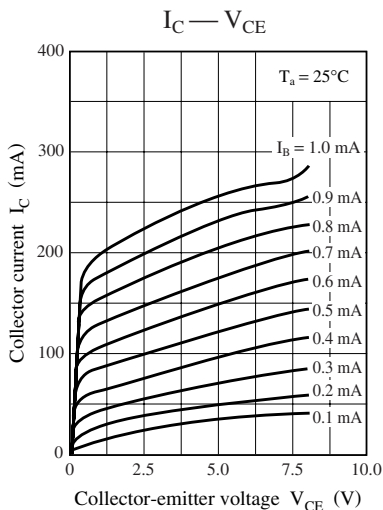
- $R_{on}$  measurement circuit

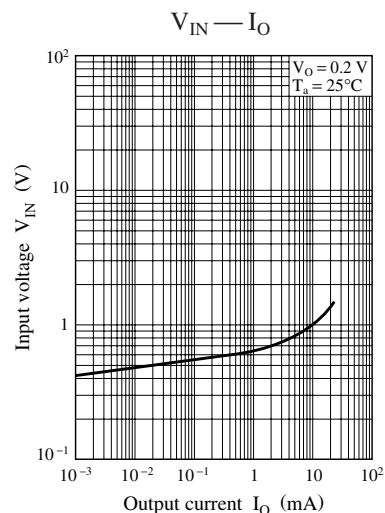
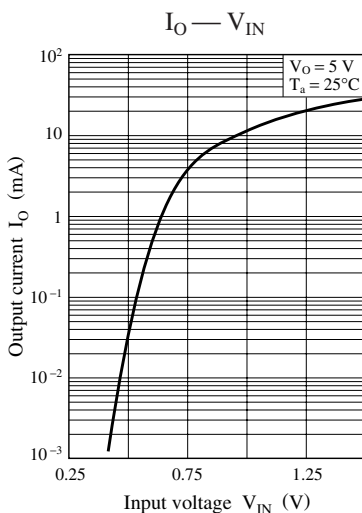
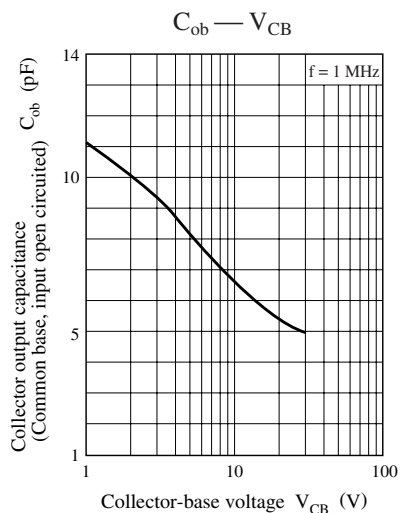


Common characteristics chart

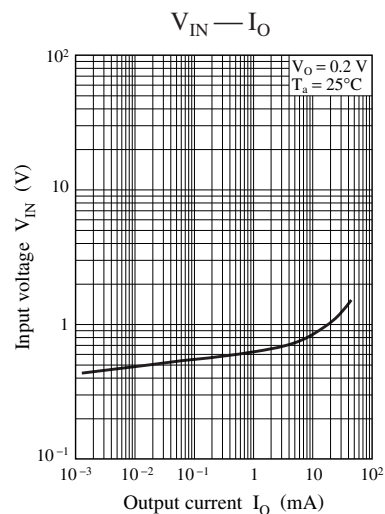
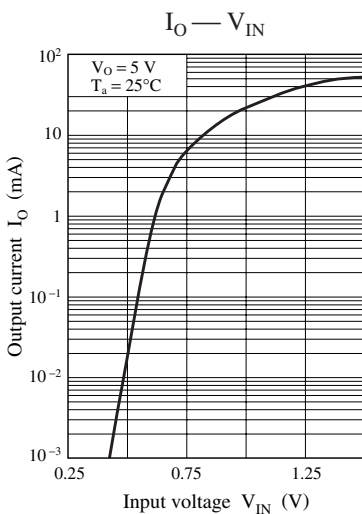
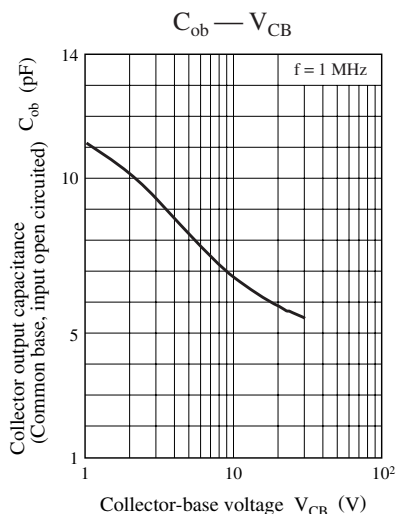
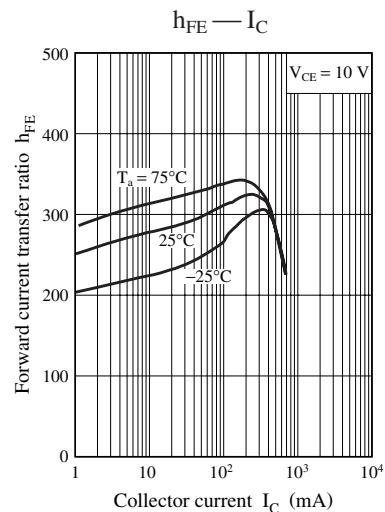
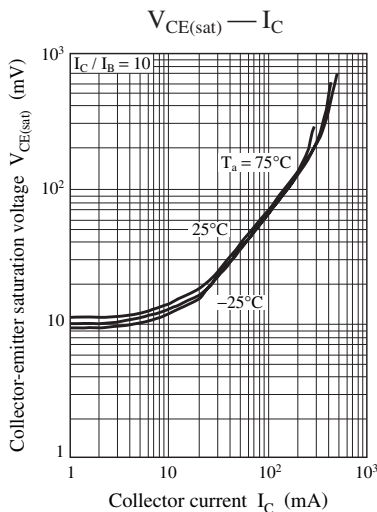
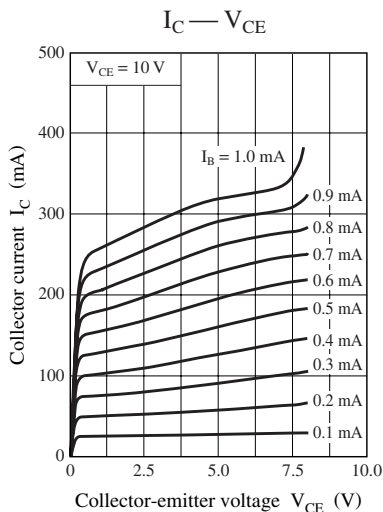


Characteristics charts of UNR5225

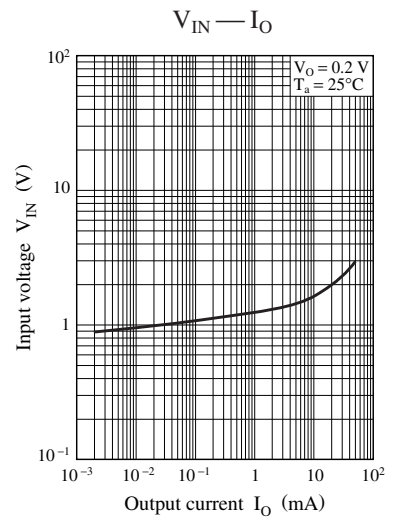
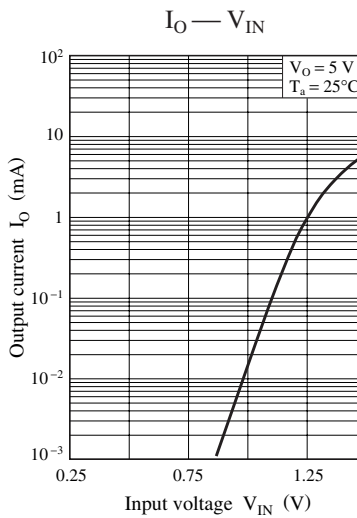
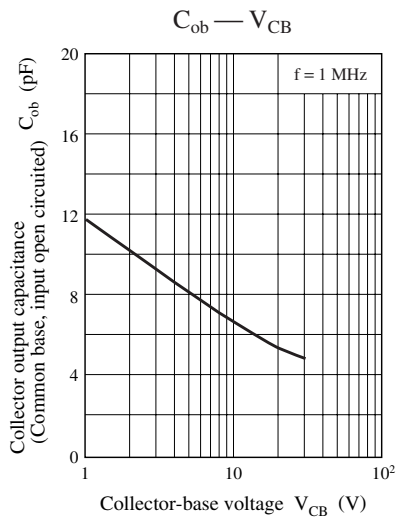
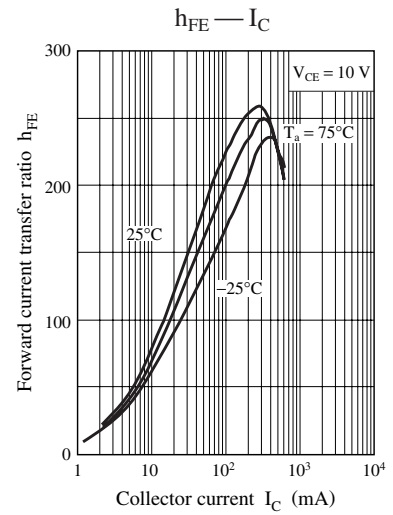
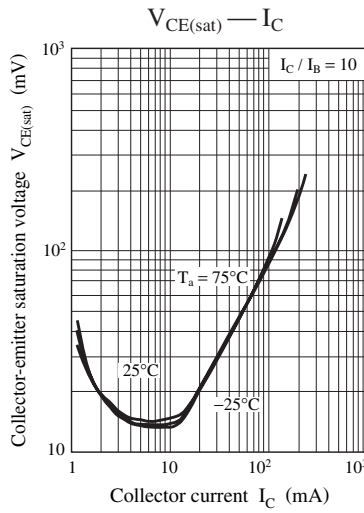
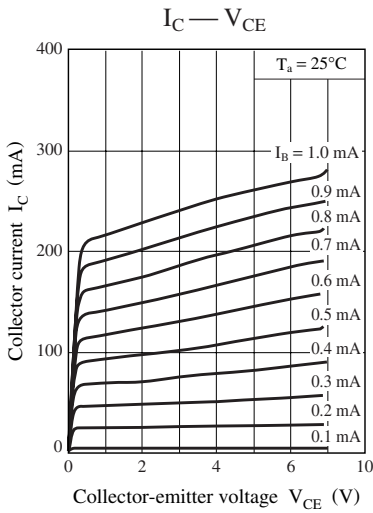




Characteristics charts of UNR5226



Characteristics charts of UNR5227



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