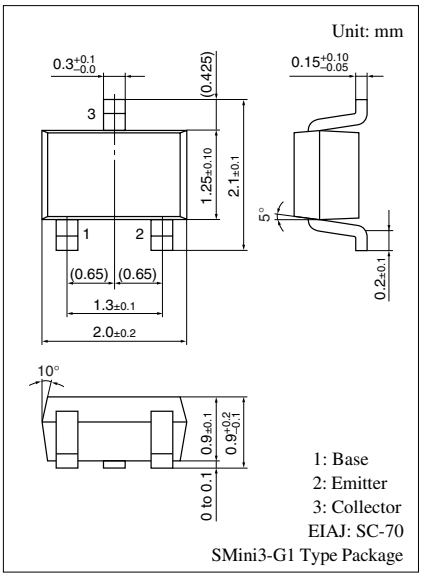
UNR5225

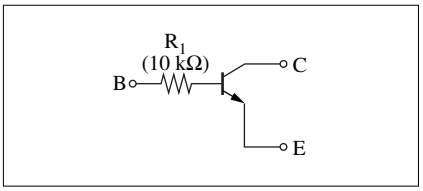
Silicon NPN epitaxial planer type

For muting circuit



Marking Symbol: FZ

Internal Connection



■ Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Built-in resistor, allowing reduction of the number of parts.

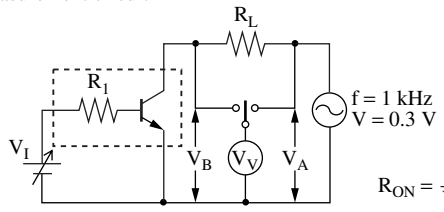
■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	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 $T_a = 25°C \pm 3°C$

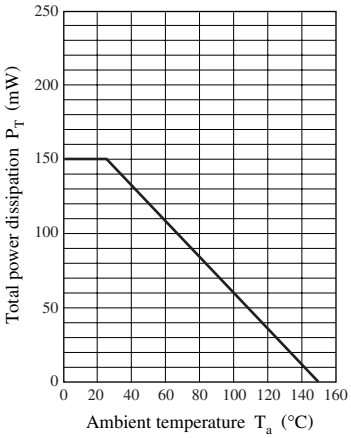
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector to base voltage	V_{CBO}	I_C = 1 µA, I_E = 0	30			V
Collector to emitter voltage	V_{CEO}	I_C = 1 mA, I_B = 0	20			V
Emitter to base voltage	V_{EBO}	I_E = 1 µA, I_C = 0	5			V
Collector cutoff current	I_{CBO}	V_{CB} = 30 V, I_E = 0			1	µA
Emitter cutoff current	I_{EBO}	V_{EB} = 5 V, I_C = 0			1	µA
Forward current transfer ratio	h_{FE}	V_{CE} = 5 V, I_C = 50 mA	100		600	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 50 mA, I_B = 2.5 mA			80	mV
Input resistance	R_1		−30%	10	+30%	kΩ
ON-resistance *	R_{ON}	V_I = 7 V, R_L = 1 kΩ, f = 1 kHz		1.5		Ω
Transition frequency	f_T	V_{CB} = 10 V, I_E = −50 mA, f = 200 MHz		200		MHz

Note) *: R_{ON} measurement circuit

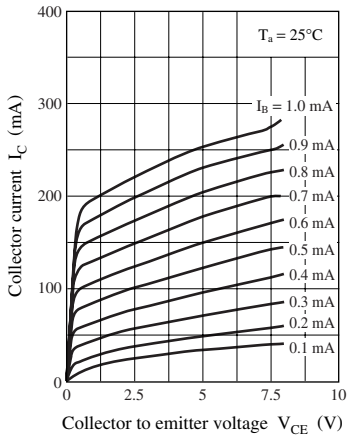


$$R_{ON} = \frac{V_B}{V_A - V_B} \times R_L\ (\Omega)$$

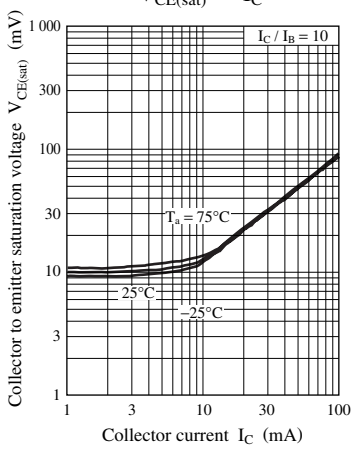
P_T — T_a



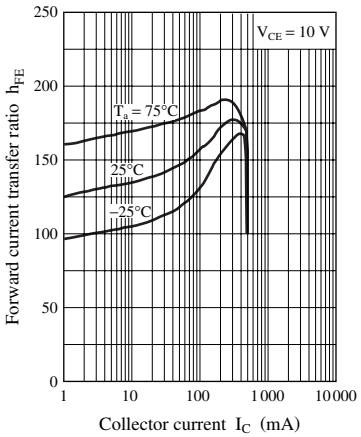
I_C — V_{CE}



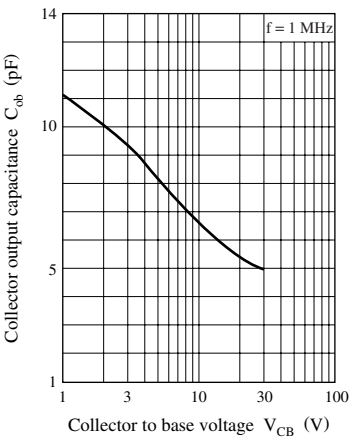
$V_{CE(sat)}$ — I_C



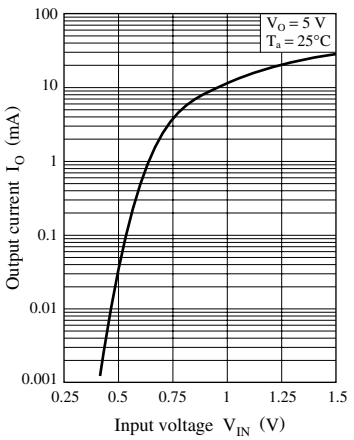
h_{FE} — I_C



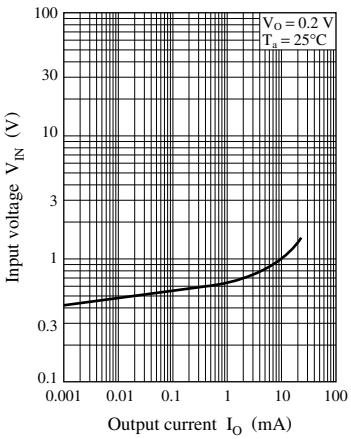
C_{ob} — V_{CB}



I_O — V_{IN}



V_{IN} — I_O



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