2SC4964

Silicon NPN Epitaxial

HITACHI

ADE-208-005A (Z)
2nd. Edition
Mar. 2001

Application

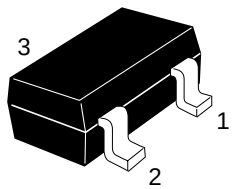
VHF / UHF RF switch

Features

- Low Ron and high performance for RF switch.
- Capable of high density mounting.

Outline

MPAK



1. Emitter
2. Base
3. Collector

Note: Marking is “YV–”.

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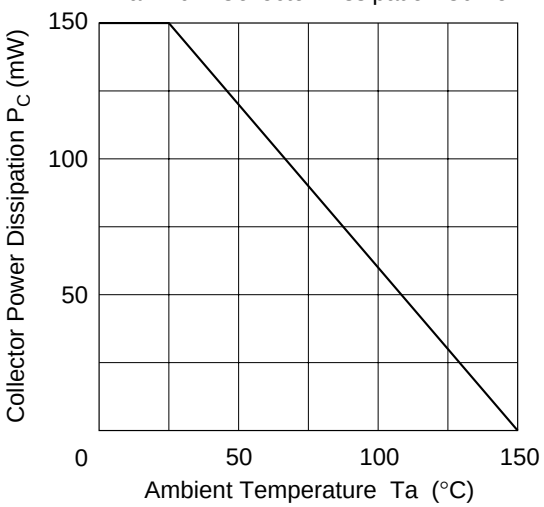
Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	12	V
Collector to emitter voltage	V_{CEO}	8	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_C	100	mA
Collector power dissipation	P_C	150	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

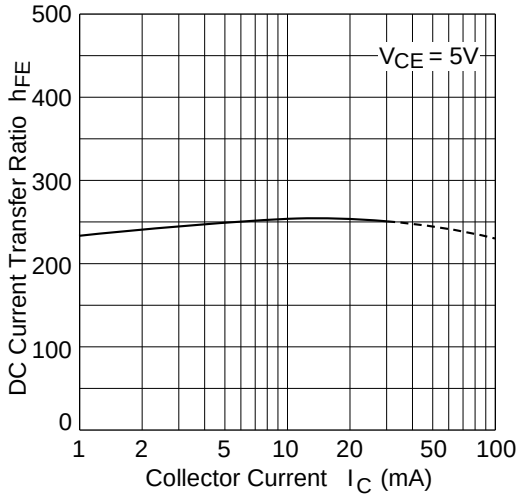
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	12	—	—	V	I_C = 10 µA, I_E = 0
Collector cutoff current	I_{CBO}	—	—	1	µA	V_{CB} = 10 V, I_E = 0
	I_{CEO}	—	—	1	mA	V_{CE} = 8 V, R_{BE} = ∞
Emitter cutoff current	I_{EBO}	—	—	10	µA	V_{EB} = 3 V, I_C = 0
DC current transfer ratio	h_{FE}	100	250	600		V_{CE} = 5 V, I_C = 5 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	200	300	mV	I_C = 80 mA, I_B = 5 mA
Collector output capacitance	Cob	—	1.2	1.6	pF	V_{CB} = 5 V, I_E = 0, f = 1 MHz
On resistance	Ron	—	2.0	—	Ω	I_B = 2.5 mA, f = 1 kHz

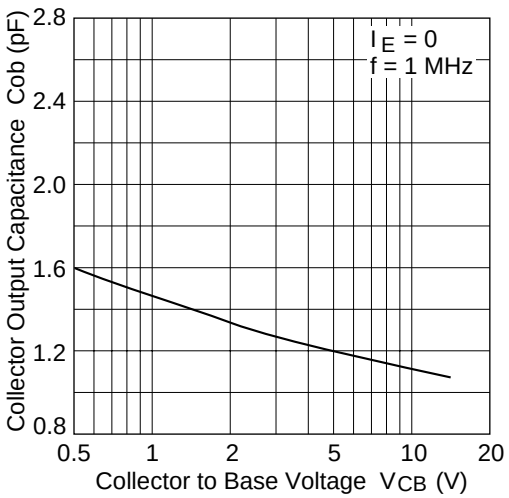
Maximum Collector Dissipation Curve



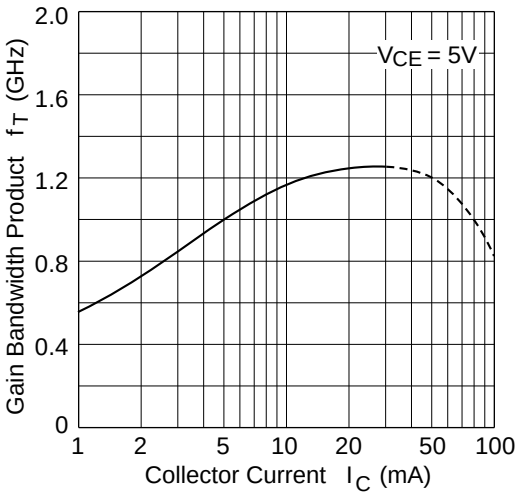
DC Current Transfer Ratio vs. Collector Current



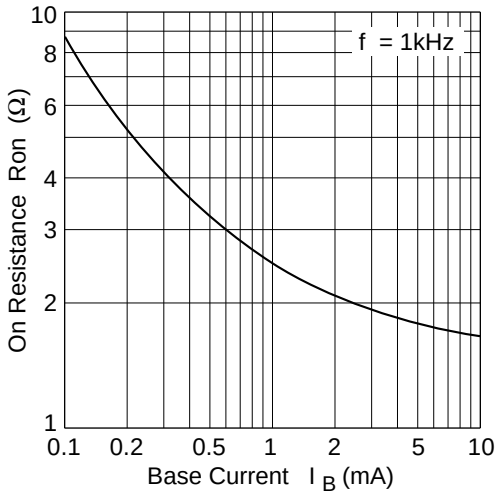
Collector Output Capacitance vs. Collector to Base Voltage



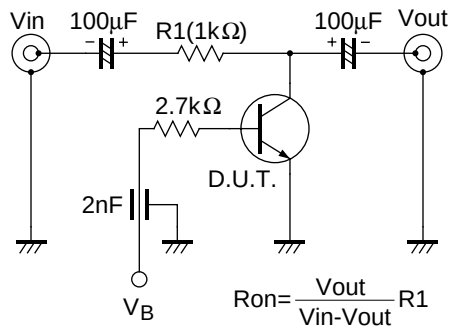
Gain Bandwidth Product vs. Collector Current



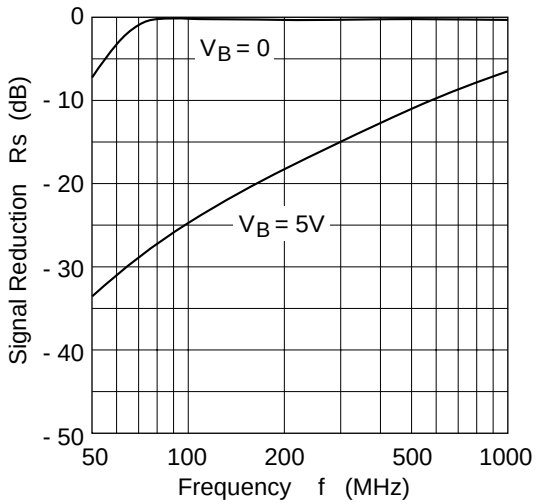
On Resistance vs. Base Current



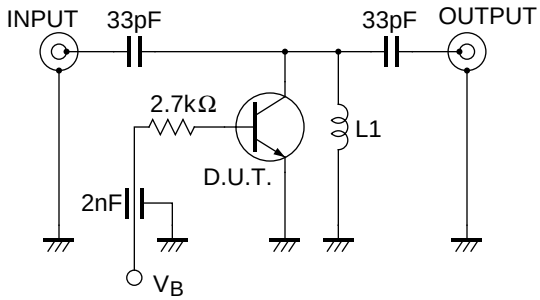
Ron test circuit



Signal Reduction vs. Frequency

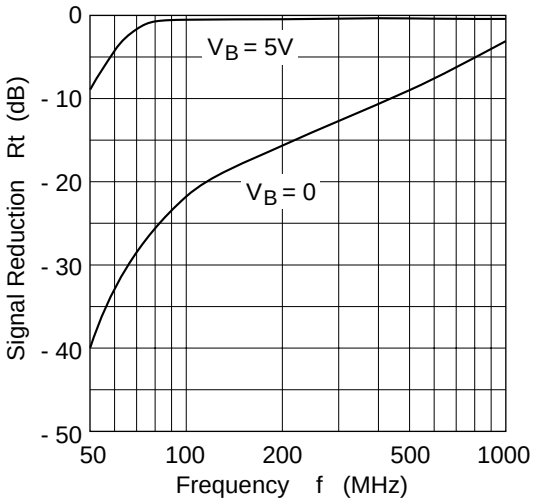


Signal Reduction test circuit

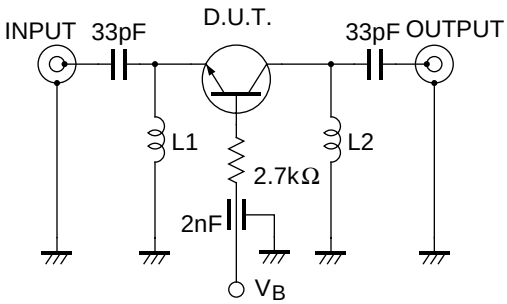


L1 : Inside dia ø 3 mm ,
ø 0.5 mm Enameled Copper Wire 7 Turns.

Signal Reduction vs. Frequency



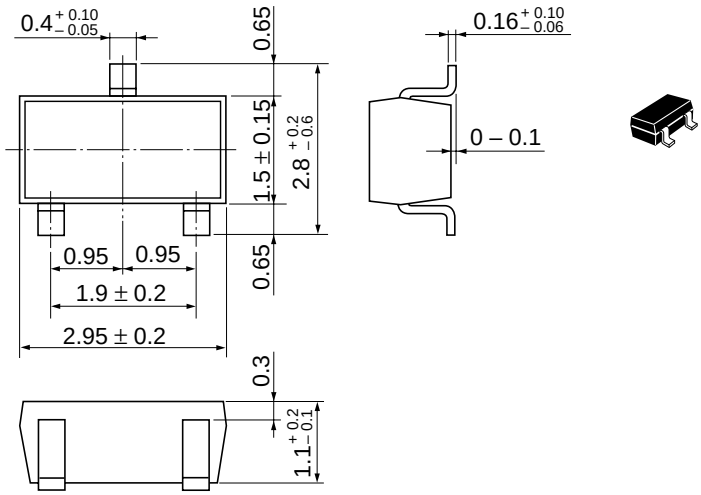
Signal Reduction test circuit



L1 , L2 : Inside dia ø 3 mm ,
ø 0.5 mm Enameled Copper Wire 7 Turns.

Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	MPAK
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.011 g

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