
2SC4964

Silicon NPN Epitaxial

HITACHI

ADE-208-005
1st. Edition

Application

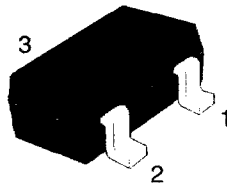
VHF / UHF RF switch

Features

- Low R_{on} and high performance for RF switch.
- Capable of high density mounting.

Outline

MPAK



1. Emitter
2. Base
3. Collector

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

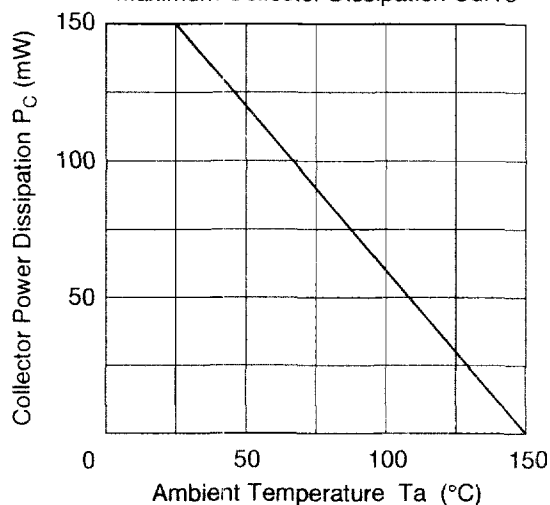
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	12	V
Collector to emitter voltage	V_{CEO}	8	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_{C}	100	mA
Collector power dissipation	P_{C}	150	mW
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

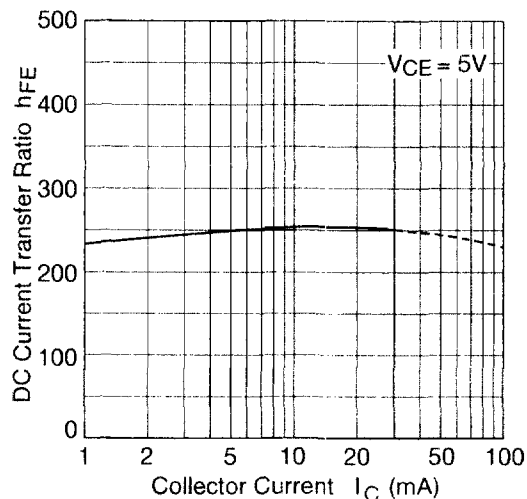
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	12	—	—	V	$I_{\text{C}} = 10\text{ }\mu\text{A}$, $I_{\text{E}} = 0$
Collector cutoff current	I_{CBO}	—	—	1	μA	$V_{\text{CB}} = 10\text{ V}$, $I_{\text{E}} = 0$
	I_{CEO}	—	—	1	mA	$V_{\text{CE}}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

Note: Marking is "YV—".

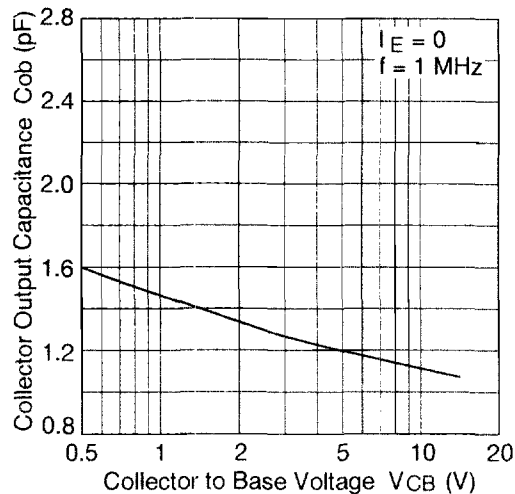
Maximum Collector Dissipation Curve



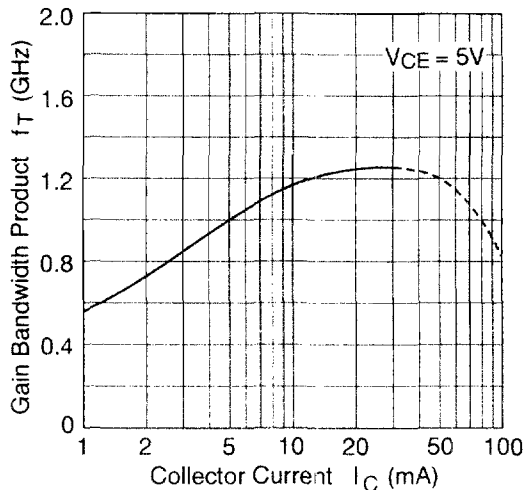
DC Current Transfer Ratio vs. Collector Current



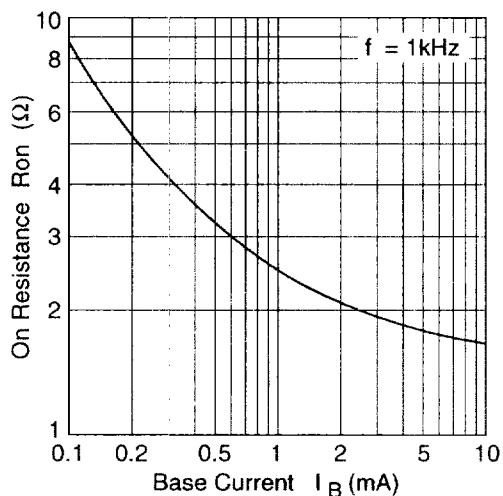
Collector Output Capacitance vs. Collector to Base Voltage



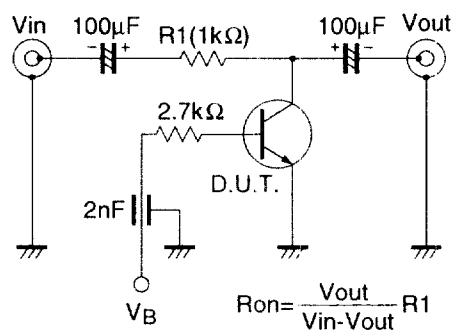
Gain Bandwidth Product vs. Collector Current



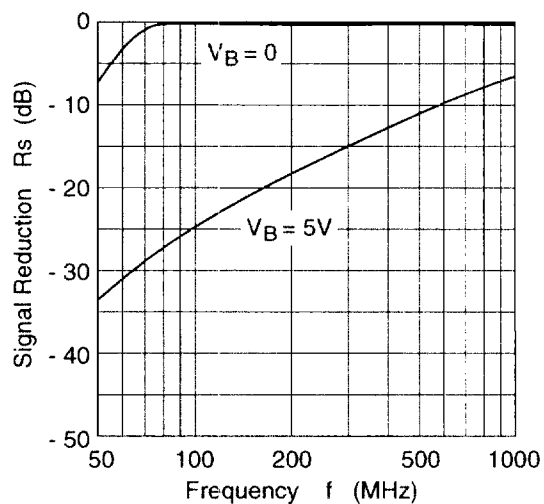
On Resistance vs. Base Current



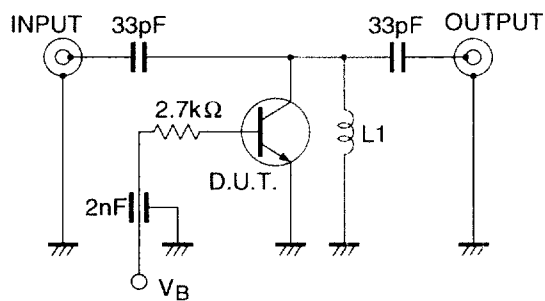
Ron test circuit



Signal Reduction vs. Frequency



Signal Reduction test circuit



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

