
2SC4680

Silicon NPN Epitaxial

HITACHI

Application

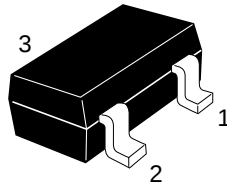
VHF / UHF high frequency switching

Features

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

Outline

MPAK



1. Emitter
2. Base
3. Collector

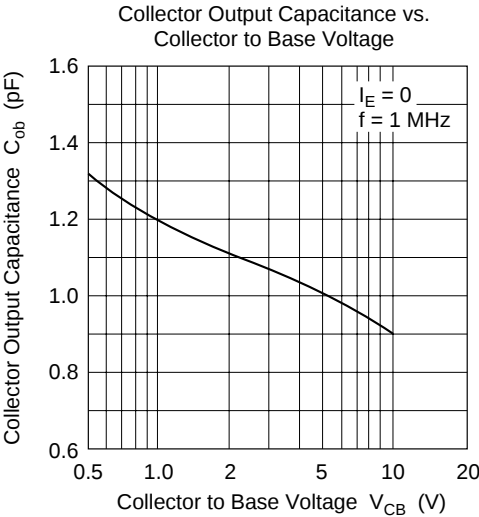
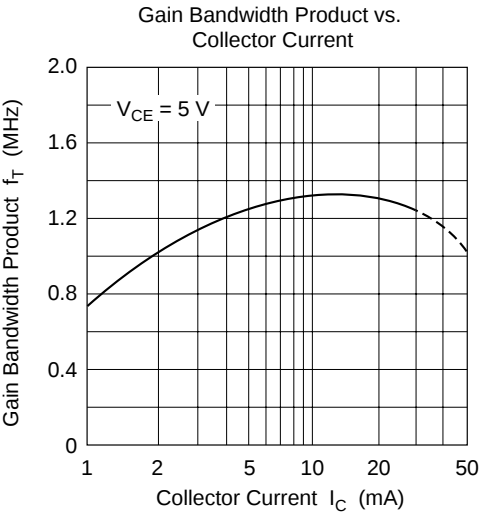
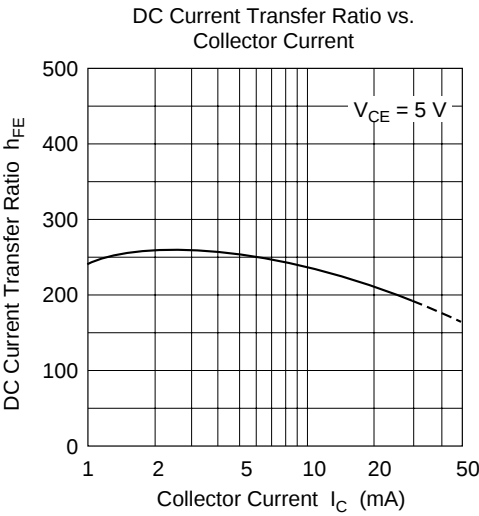
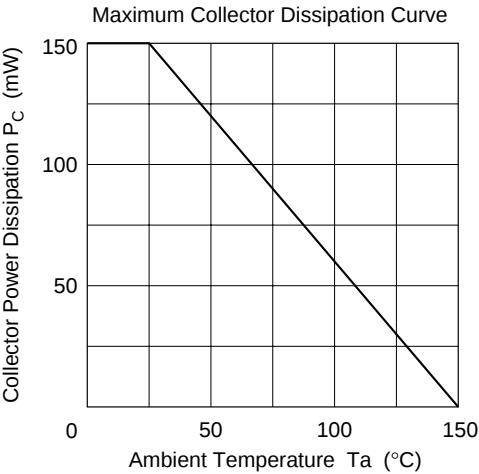
Absolute Maximum Ratings (Ta = 25°C)

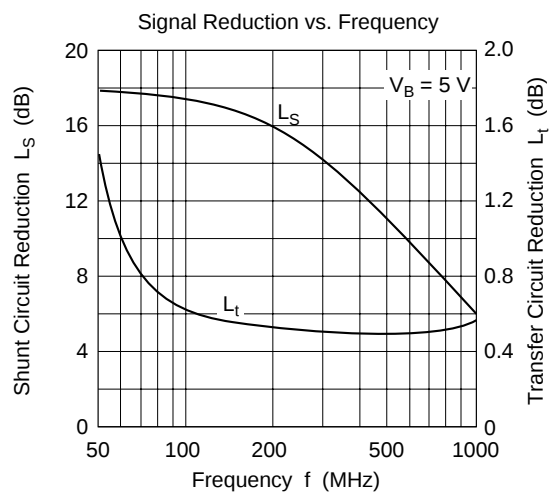
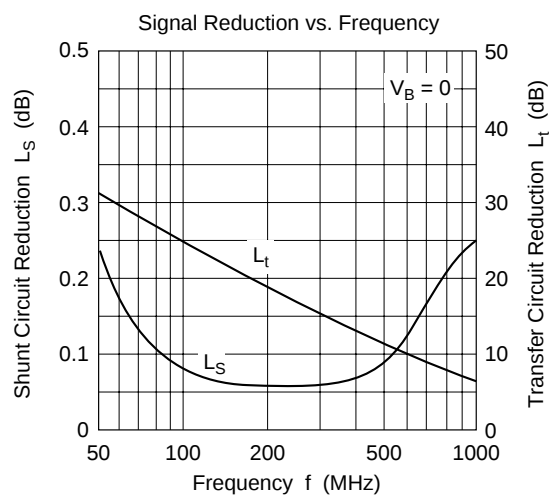
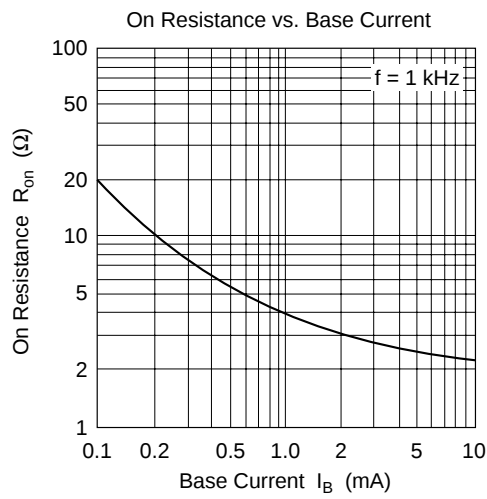
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	12	V
Collector to emitter voltage	V_{CEO}	8	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

Electrical Characteristics (Ta = 25°C)

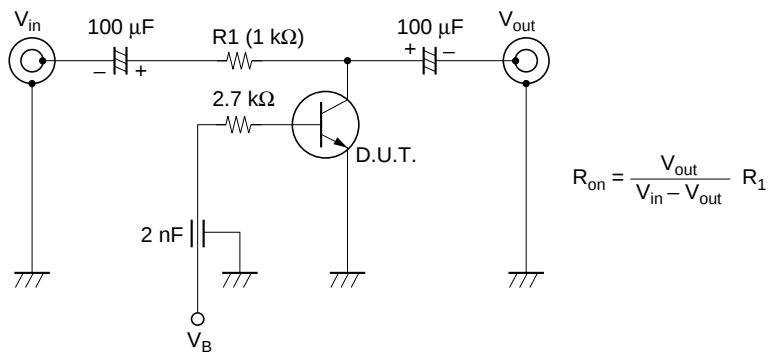
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	12	—	—	V	$I_C = 10\text{ }\mu\text{A}$, $I_E = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 12\text{ V}$, $I_E = 0$
	I_{CEO}	—	—	1	mA	$V_{CE} = 8\text{ V}$, $R_{BE} = \infty$
Emitter cutoff current	I_{EBO}	—	—	10	μA	$V_{EB} = 3\text{ V}$, $I_C = 0$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	70	100	mV	$I_C = 20\text{ mA}$, $I_B = 4\text{ mA}$
DC current transfer ratio	h_{FE}	100	250	—		$V_{CE} = 5\text{ V}$, $I_C = 5\text{ mA}$
Collector output capacitance	C_{ob}	—	1.0	1.5	pF	$V_{CB} = 5\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$

Note: Marking is “XU—”.

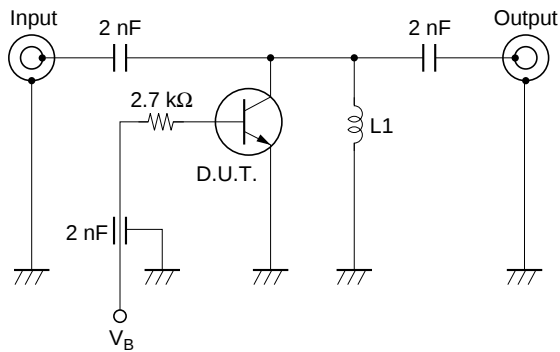




On Resistance Test Circuit

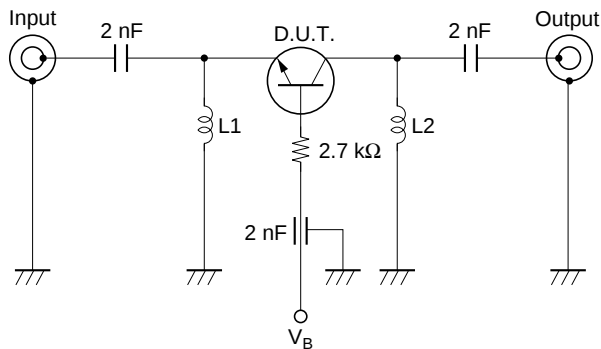


Reduction Test Circuit (Shunt Circuit)

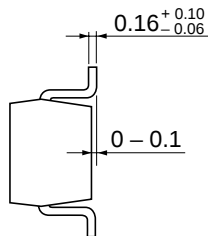
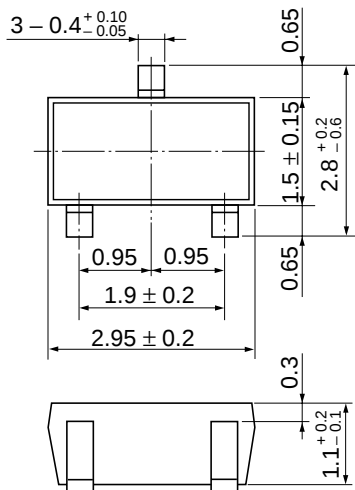


L1 : 3 mm inside dia, $\phi 0.2\ \text{mm}$ enameled copper wire, 15 turns

Reduction Test Circuit (Transfer Circuit)



L1, L2 : 3 mm inside dia, $\phi 0.2\ \text{mm}$ enameled copper wire, 15 turns



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

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