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# 2SC4680

Silicon NPN Epitaxial

# HITACHI

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## Application

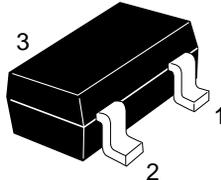
VHF / UHF high frequency switching

## Features

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

## Outline

MPAK



1. Emitter
2. Base
3. Collector

## 2SC4680

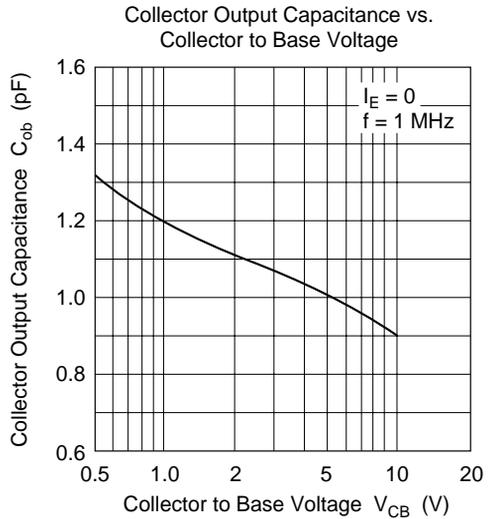
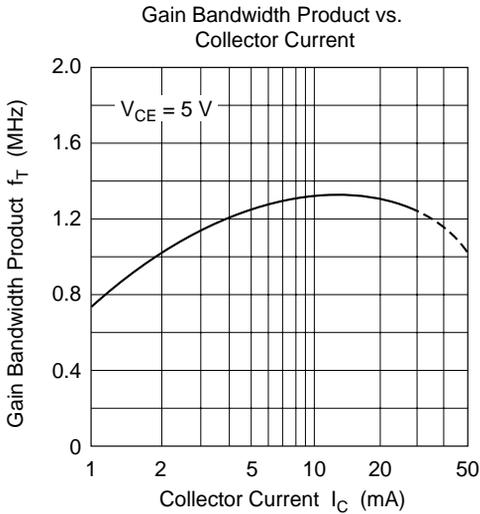
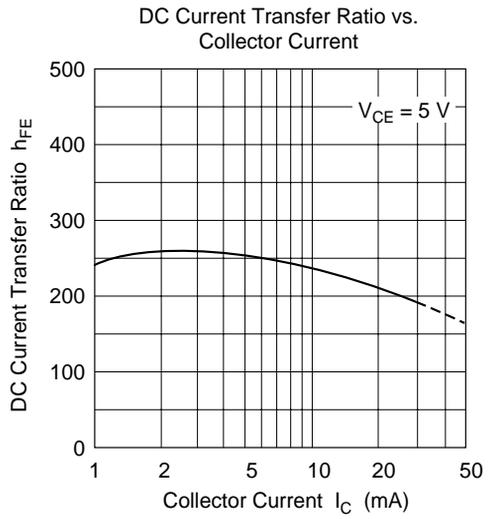
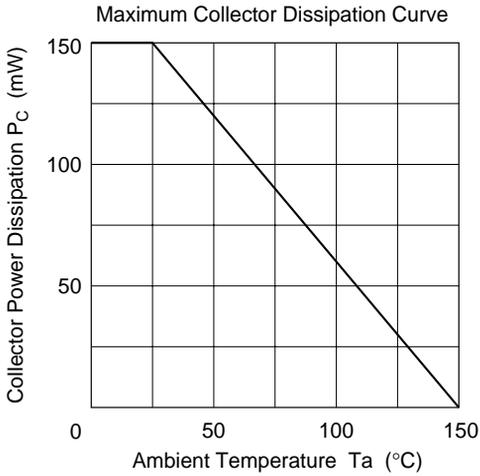
### Absolute Maximum Ratings (Ta = 25°C)

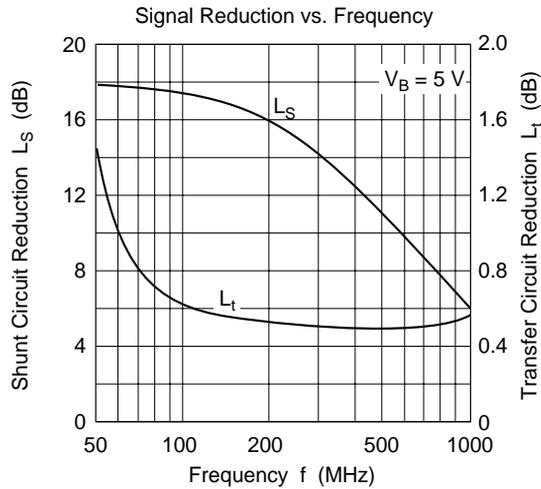
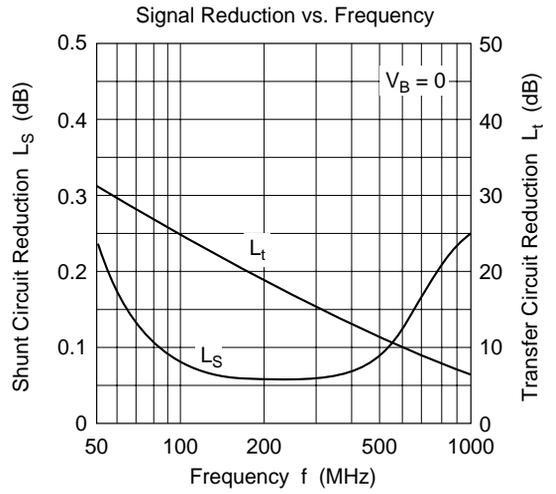
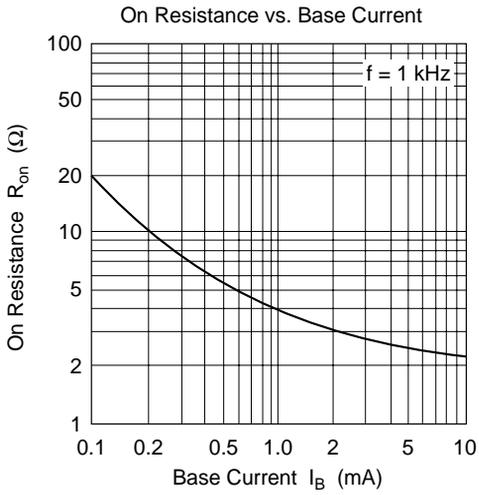
Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	12	V
Collector to emitter voltage	$V_{CEO}$	8	V
Emitter to base voltage	$V_{EBO}$	3	V
Collector current	$I_C$	50	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

### Electrical Characteristics (Ta = 25°C)

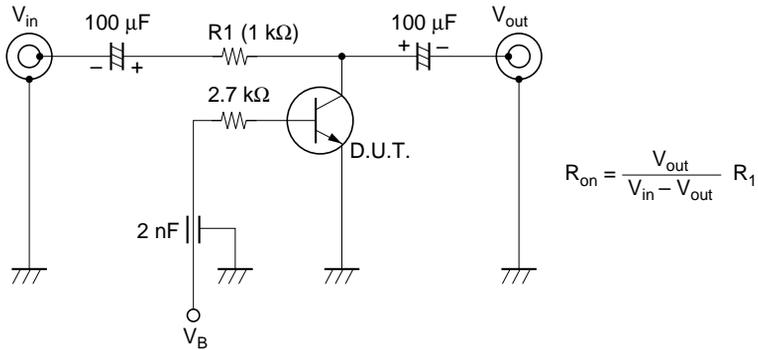
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	12	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector cutoff current	$I_{CBO}$	—	—	10	$\mu A$	$V_{CB} = 12 V, I_E = 0$
	$I_{CEO}$	—	—	1	mA	$V_{CE} = 8 V, R_{BE} = \infty$
Emitter cutoff current	$I_{EBO}$	—	—	10	$\mu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

Note: Marking is "XU-".

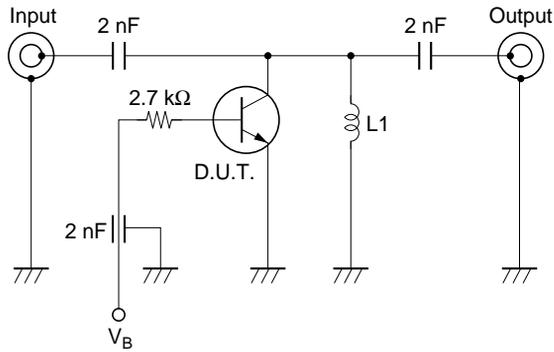




On Resistance Test Circuit

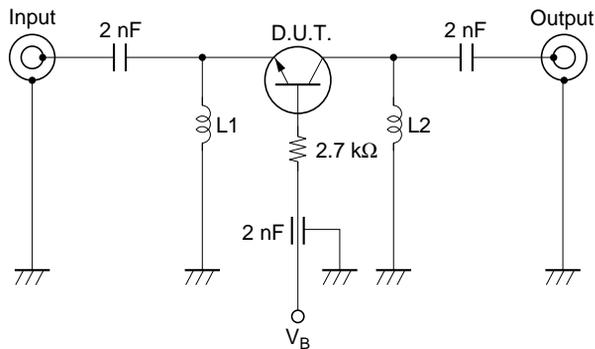


Reduction Test Circuit (Shunt Circuit)

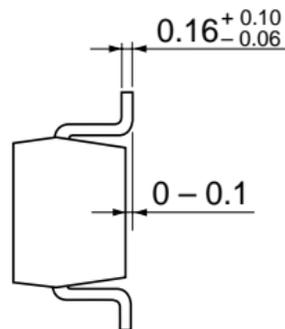
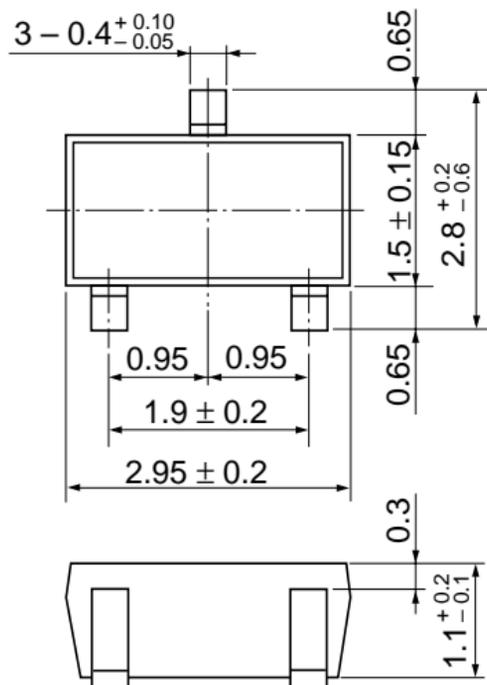


L1 : 3 mm inside dia,  $\phi$ 0.2 mm enameled copper wire, 15 turns

Reduction Test Circuit (Transfer Circuit)



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



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

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