
2SC4643

Silicon NPN Epitaxial

HITACHI

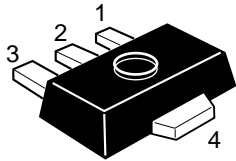
ADE-208-1116A (Z)
2nd. Edition
Mar. 2001

Application

UHF / VHF wide band amplifier

Outline

UPAK



1. Base
2. Collector
3. Emitter
4. Collector (Flange)

Note: Marking is "DR".

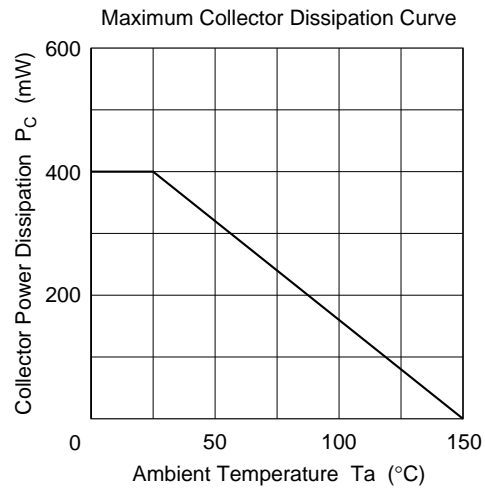
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to emitter voltage	V_{CEO}	9	V
Emitter to base voltage	V_{EBO}	1.5	V
Collector current	I_{C}	50	mA
Collector power dissipation	P_{C}	400	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	$V_{(\text{BR})\text{CBO}}$	15	—	—	V	$I_{\text{C}} = 10 \mu\text{A}$, $I_{\text{E}} = 0$
Collector cutoff current	I_{CBO}	—	—	1	μA	$V_{\text{CB}} = 12 \text{ V}$, $I_{\text{E}} = 0$
	I_{CEO}	—	—	1	mA	$V_{\text{CE}} = 9 \text{ V}$, $R_{\text{BE}} = \infty$
Emitter cutoff current	I_{EBO}	—	—	10	μA	$V_{\text{EB}} = 1.5 \text{ V}$, $I_{\text{C}} = 0$
DC current transfer ratio	h_{FE}	40	120	250	—	$V_{\text{CE}} = 5 \text{ V}$, $I_{\text{C}} = 20 \text{ mA}$
Collector output capacitance	C_{ob}	—	1.0	1.7	pF	$V_{\text{CB}} = 5 \text{ V}$, $I_{\text{E}} = 0$, $f = 1\text{MHz}$
Gain bandwidth product	f_{T}	5.5	8.0	—	GHz	$V_{\text{CE}} = 5 \text{ V}$, $I_{\text{C}} = 20 \text{ mA}$
Power gain	PG	7.5	10.5	—	dB	$V_{\text{CE}} = 5 \text{ V}$, $I_{\text{C}} = 20 \text{ mA}$, $f = 900 \text{ MHz}$
Noise figure	NF	—	1.2	2.5	dB	$V_{\text{CE}} = 5 \text{ V}$, $I_{\text{C}} = 5 \text{ mA}$, $f = 900 \text{ MHz}$

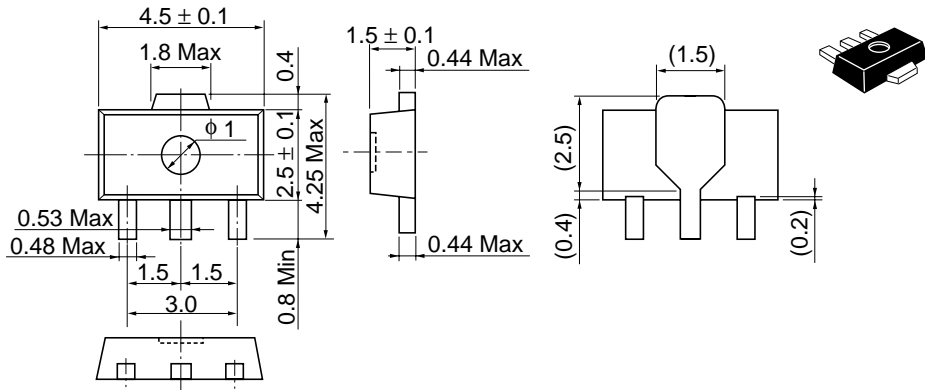
See characteristic curve of 2SC4591



Package Dimensions

As of January, 2001

Unit: mm



Hitachi Code	UPAK
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.050 g

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