

# 2SB1072(L), 2SB1072(S)

Silicon PNP Triple Diffused

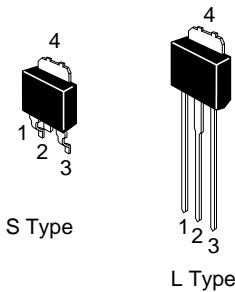
# HITACHI

## Application

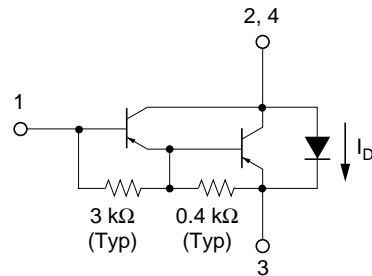
Medium speed power amplifier

## Outline

DPAK



- 1. Base
- 2. Collector
- 3. Emitter
- 4. Collector



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	$V_{CBO}$	-100	V
Collector to emitter voltage	$V_{CEO}$	-80	V
Emitter to base voltage	$V_{EBO}$	-7	V
Collector current	$I_C$	-4	A
C to E diode forward current	$I_D^{*1}$	4	A
Collector peak current	$I_{C(peak)}$	-8	A
Collector power dissipation	$P_C^{*1}$	20	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

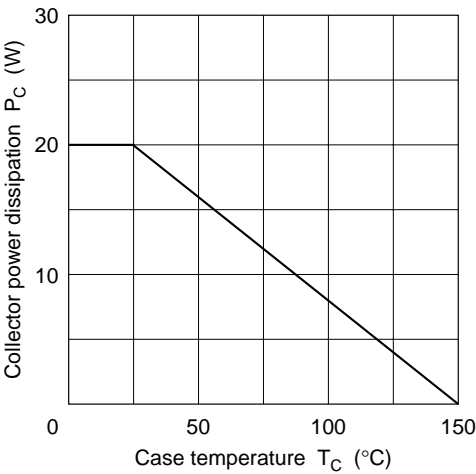
Note: 1. Value at  $T_C = 25^\circ\text{C}$

Electrical Characteristics (Ta = 25°C)

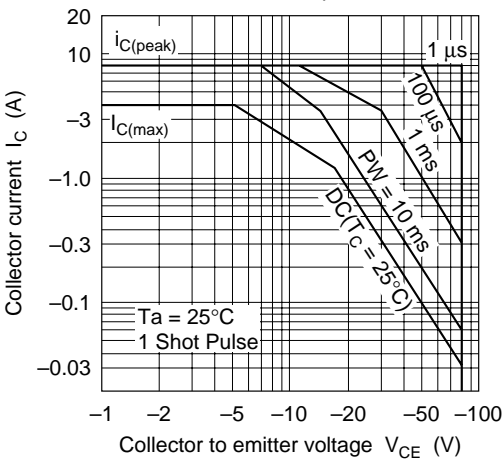
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-80	—	—	V	$I_C = -25\text{ mA}$ , $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-7	—	—	V	$I_E = -50\text{ mA}$ , $I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	-100	$\mu\text{A}$	$V_{CB} = -80\text{ V}$ , $I_E = 0$
	$I_{CEO}$	—	—	-10	$\mu\text{A}$	$V_{CE} = -60\text{ V}$ , $R_{BE} = \infty$
DC current transfer ratio	$h_{FE}$	1000	—	20000		$V_{CE} = -3\text{ V}$ , $I_C = -2\text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	-1.5	V	$I_C = -2\text{ A}$ , $I_B = -4\text{ mA}^{*1}$
	$V_{CE(sat)2}$	—	—	-3.0	V	$I_C = -4\text{ A}$ , $I_B = -40\text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	-2.0	V	$I_C = -2\text{ A}$ , $I_B = -4\text{ mA}^{*1}$
	$V_{BE(sat)2}$	—	—	-3.5	V	$I_C = -4\text{ A}$ , $I_B = -40\text{ mA}^{*1}$
C to E diode forward voltage	$V_D$	—	—	3.0	V	$I_D = 4\text{ A}^{*1}$
Turn on time	$t_{on}$	—	0.5	—	$\mu\text{s}$	$I_C = -2\text{ A}$ , $I_{B1} = -I_{B2} = -4\text{ mA}$
Storage time	$t_{stg}$	—	1.5	—	$\mu\text{s}$	
Fall time	$t_f$	—	1.0	—	$\mu\text{s}$	

Note: 1. Pulse test.

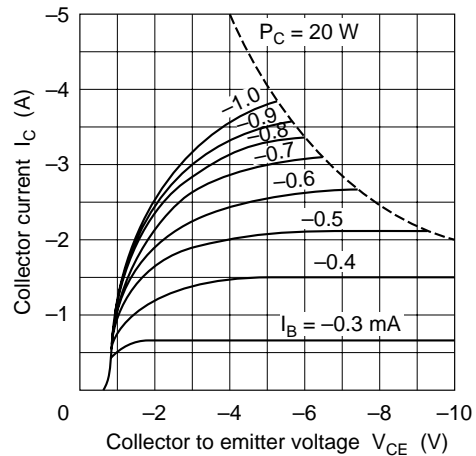
Maximum Collector Dissipation Curve



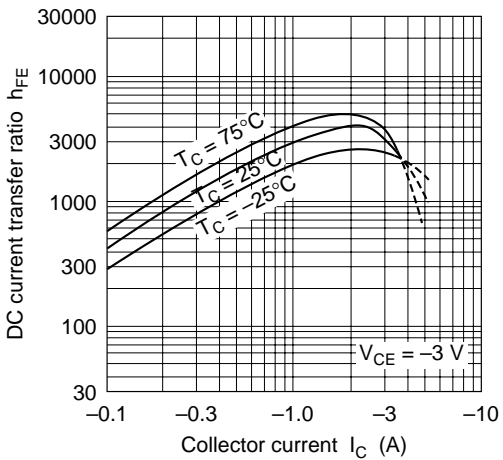
Area of Safe Operation

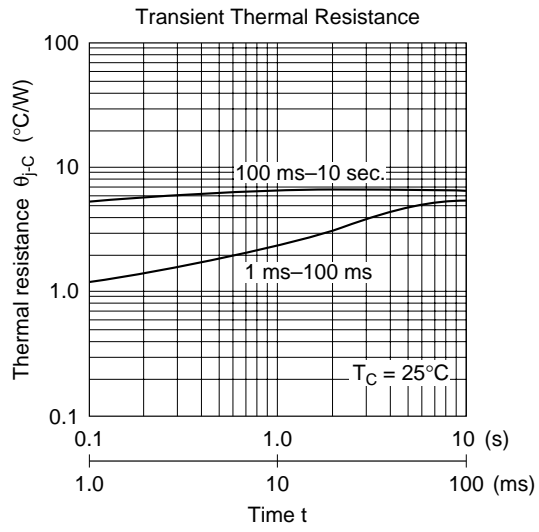
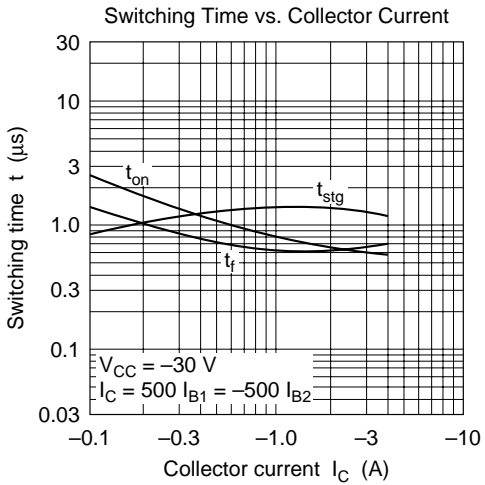
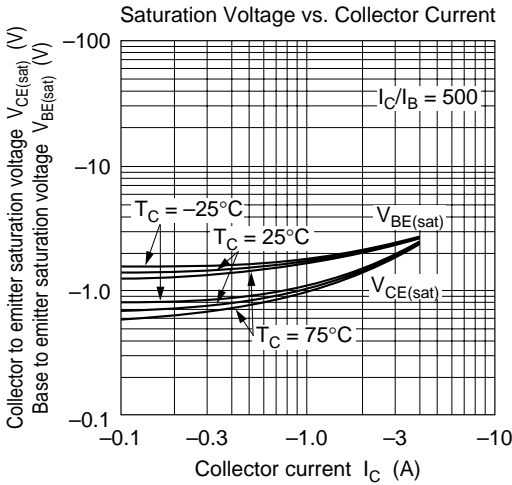


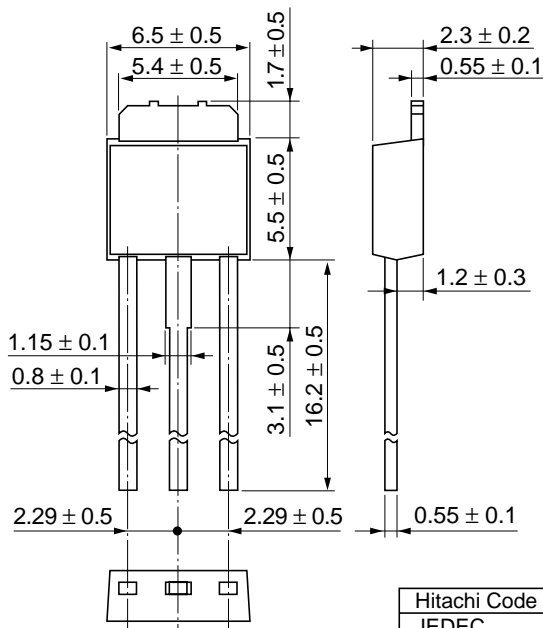
Typical Output Characteristics



DC Current Transfer Ratio vs. Collector Current







Hitachi Code	DPAK (L)-(1)
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.42 g

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