

# 2SD2423

Silicon NPN Epitaxial, Darlington

# HITACHI

## Application

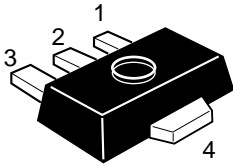
Low frequency power amplifier

## Features

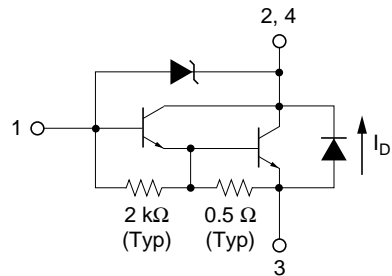
The transistor with a built-in zener diode of surge absorb.

## Outline

UPAK



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



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

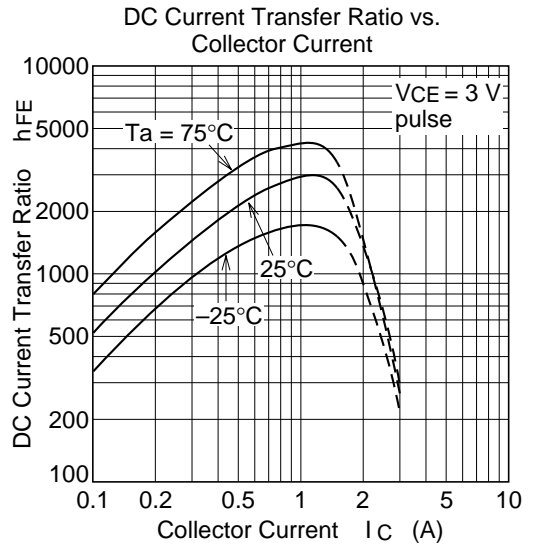
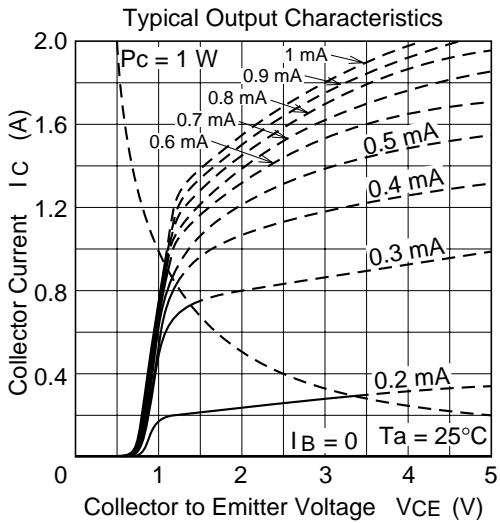
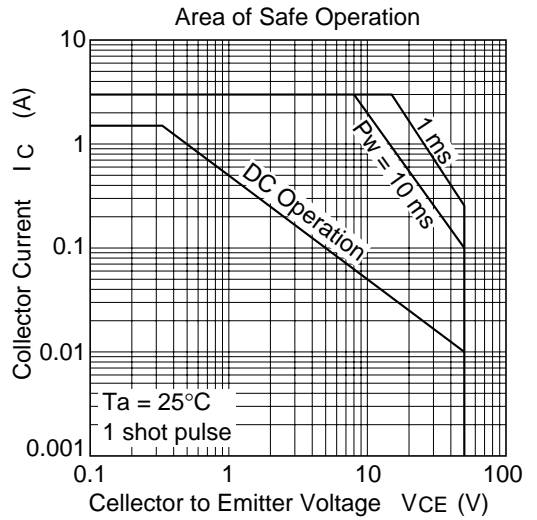
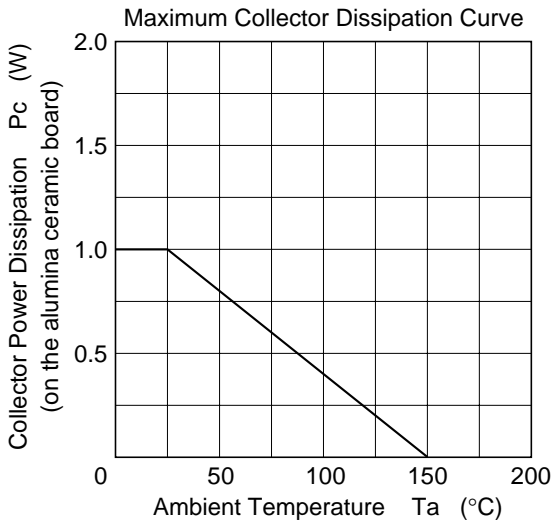
Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	50	V
Collector to emitter voltage	$V_{CEO}$	50	V
Emitter to base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	1.5	A
Collector power dissipation	$P_C^{*1}$	1	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C
Collector to emitter diode forward current	$I_D$	1.5	A

Note: 1. When using the ceramic board 0.7 mm thick (12.5 mm x 20 mm).

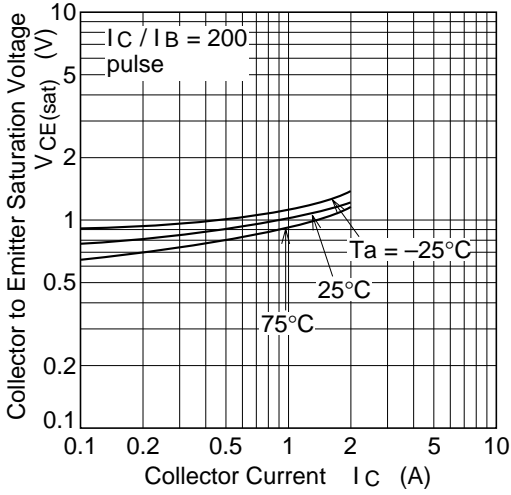
## Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	50	—	70	V	$I_C = 100 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	50	—	—	V	$I_C = 10 \text{ mA}, R_{BE} = \infty$
Collector to emitter sustaining voltage	$V_{CEO(sus)}$	50	—	70	V	$I_C = 1.5 \text{ A}, R_{BE} = \infty, L = 10 \text{ mH}^{*1}$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 50 \text{ mA}, I_C = 0$
Collector cutoff current	$I_{CEO}$	—	—	10	$\mu A$	$V_{CE} = 40 \text{ V}, R_{BE} = \infty$
DC current transfer ratio	$h_{FE}$	2000	—	10000		$V_{CE} = 3 \text{ V}, I_C = 1 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	1.5	V	$I_C = 1 \text{ A}, I_B = 1 \text{ mA}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)2}$	—	—	2.3	V	$I_C = 1.5 \text{ A}, I_B = 1.5 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	2.0	V	$I_C = 1 \text{ A}, I_B = 1 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)2}$	—	—	2.5	V	$I_C = 1.5 \text{ A}, I_B = 1.5 \text{ mA}^{*1}$
Emitter to collector diode forward voltage	$V_D$	—	—	3.5	V	$I_D = 1.5 \text{ A}^{*1}$

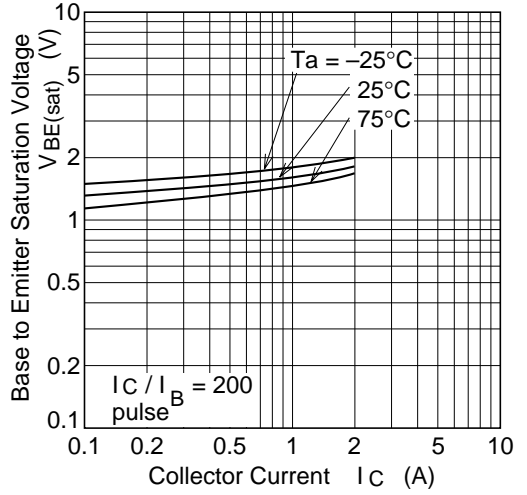
Notes: 1. Pulse test  
2. Marking is "GT".



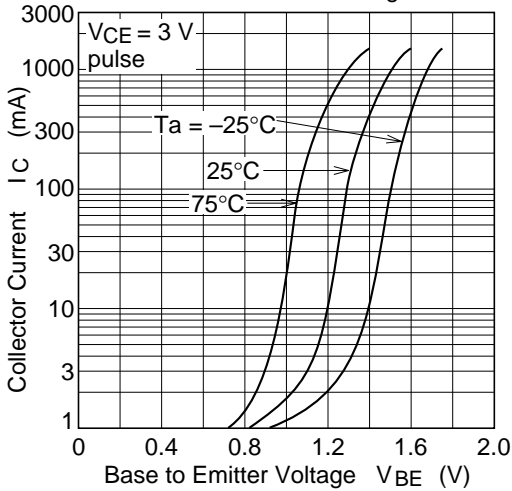
Collector to Emitter Saturation Voltage vs. Collector Current



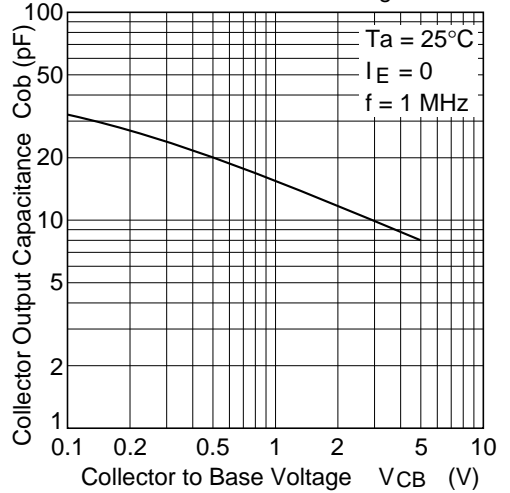
Base to Emitter Saturation Voltage vs. Collector Current



Collector Current vs. Base to Emitter Voltage



Collector Output Capacitance vs. Collector to Base Voltage





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

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