2SB0789ARL Datasheet

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DiGi Electronics Part Number	2SB0789ARL-DG
Manufacturer	Panasonic Electronic Components
Manufacturer Product Number	2SB0789ARL
Description	TRANS PNP 120V 0.5A MINIP3-F1
Detailed Description	Bipolar (BJT) Transistor PNP 120 V 500 mA 120MHz 1 W Surface Mount MiniP3-F1

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Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
2SB0789ARL	Panasonic Electronic Components
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
PNP	500 mA
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
120 V	600mV @ 50mA, 500mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
-	130 @ 150mA, 10V
Power - Max:	Frequency - Transition:
1 W	120MHz
Operating Temperature:	Mounting Type:
150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
TO-243AA	MiniP3-F1
Base Product Number:	
2SB0789	

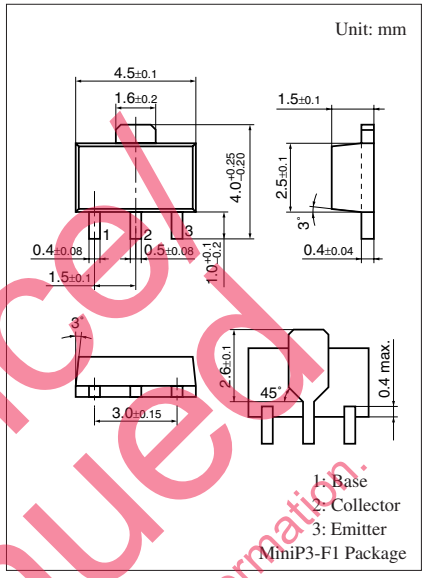
Environmental & Export classification

Moisture Sensitivity Level (MSL):	ECCN:
1 (Unlimited)	EAR99
HTSUS:	
8541.29.0075	

2SB0789, 2SB0789A (2SB789, 2SB789A)

Silicon PNP epitaxial planar type

For low-frequency driver amplification



Marking Symbol:
- 2SB0789: D
- 2SB0789A: E

■ Features

- High collector-emitter voltage (Base open) V_{CEO}
- Large collector power dissipation P_C

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SB0789	V_{CBO}	−100	V
	2SB0789A		−120	
Collector-emitter voltage (Base open)	2SB0789	V_{CEO}	−100	V
	2SB0789A		−120	
Emitter-base voltage (Collector open)		V_{EBO}	−5	V
Collector current		I_C	− 0.5	A
Peak collector current		I_{CP}	−1	A
Collector power dissipation *		P_C	1	W
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

Note) ∗: Print circuit board: Copper foil area of 1 cm² or more, and the board thickness of 1.7 mm for the collector portion.

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

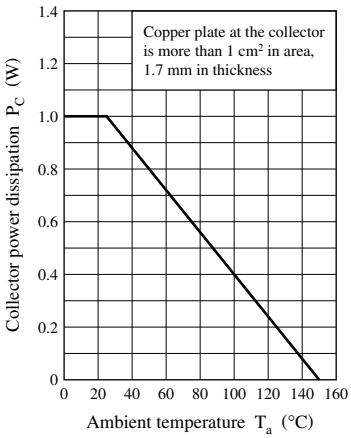
Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SB0789	V_{CEO}	I_C = −100 µA, I_B = 0	−100			V
	2SB0789A			−120			
Emitter-base voltage (Collector open)		V_{EBO}	I_E = −10 µA, I_C = 0	−5			V
Forward current transfer ratio *1		h_{FE1} *2	V_{CE} = −10 V, I_C = −150 mA	90		220	—
		h_{FE2}	V_{CE} = −5 V, I_C = −500 mA	50			
Collector-emitter saturation voltage *1		$V_{CE(sat)}$	I_C = −500 mA, I_B = −50 mA		− 0.2	− 0.6	V
Base-emitter saturation voltage *1		$V_{BE(sat)}$	I_C = −500 mA, I_B = −50 mA		− 0.85	−1.20	V
Transition frequency		f_T	V_{CB} = −10 V, I_E = 50 mA, f = 200 MHz		120		MHz
Collector output capacitance (Common base, input open circuited)		C_{ob}	V_{CB} = −10 V, I_E = 0, f = 1 MHz			30	pF

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. ∗1: Pulse measurement
∗2: Rank classification

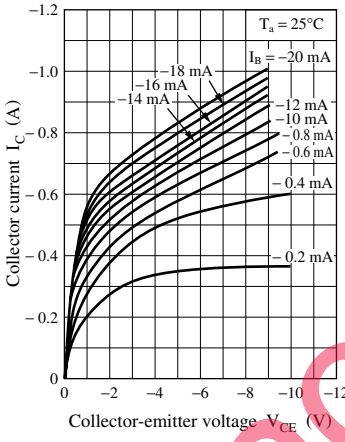
Rank	Q	R
h_{FE1}	90 to 155	130 to 220

Note) The part number in the parenthesis shows conventional part number.

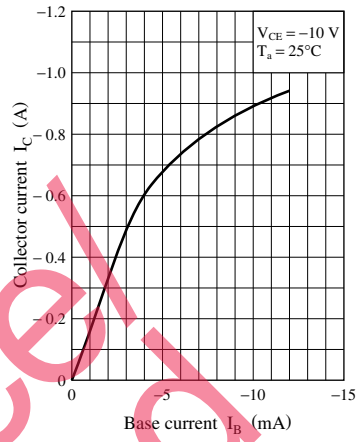
P_C — T_a



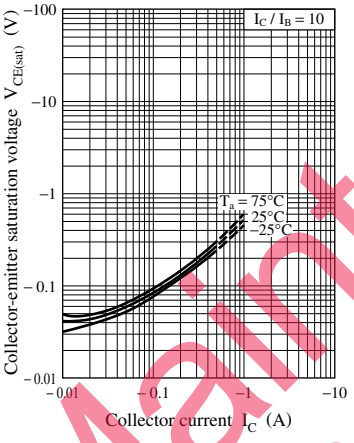
I_C — V_{CE}



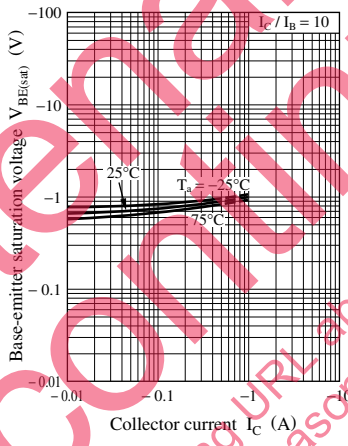
I_C — I_B



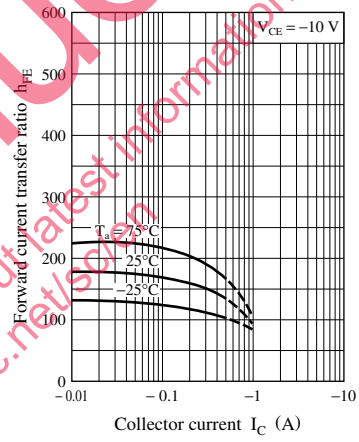
$V_{CE(sat)}$ — I_C



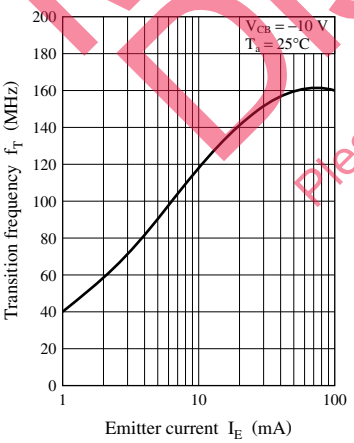
$V_{BE(sat)}$ — I_C



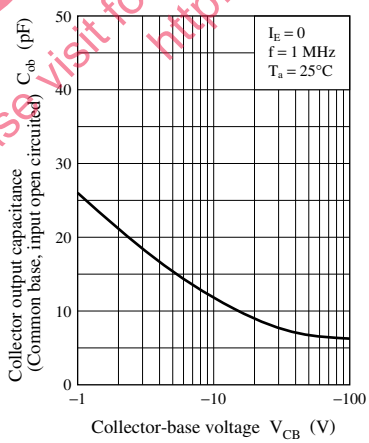
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



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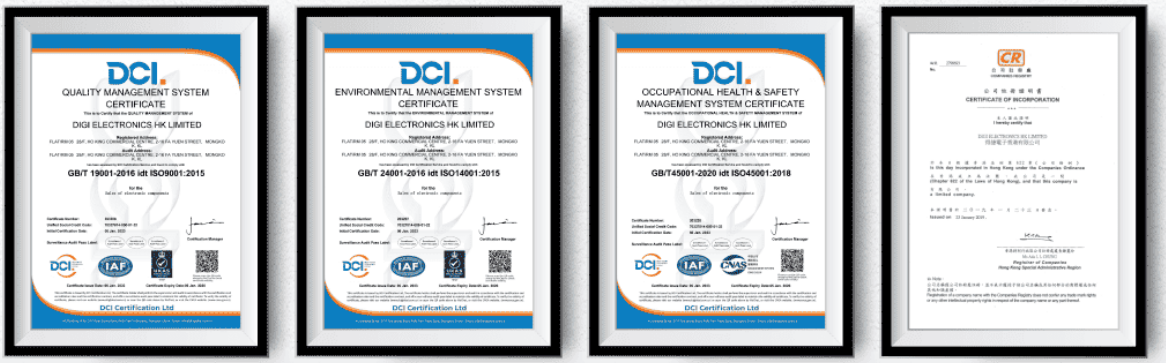

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