

# 2SD12800RL Datasheet



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DiGi Electronics Part Number	2SD12800RL-DG
Manufacturer	<a href="#">Panasonic Electronic Components</a>
Manufacturer Product Number	2SD12800RL
Description	TRANS NPN 20V 1A MINIP3-F1
Detailed Description	Bipolar (BJT) Transistor NPN 20 V 1 A 150MHz 1 W S urface Mount MiniP3-F1



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

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## Purchase and inquiry

Manufacturer Product Number:

2SD12800RL

Series:

-

Transistor Type:

NPN

Voltage - Collector Emitter Breakdown (Max):

20 V

Current - Collector Cutoff (Max):

1 $\mu$ A (ICBO)

Power - Max:

1 W

Operating Temperature:

150°C (TJ)

Package / Case:

TO-243AA

Base Product Number:

2SD1280

Manufacturer:

Panasonic Electronic Components

Product Status:

Obsolete

Current - Collector (Ic) (Max):

1 A

Vce Saturation (Max) @ Ib, Ic:

500mV @ 50mA, 1A

DC Current Gain (hFE) (Min) @ Ic, Vce:

130 @ 500mA, 2V

Frequency - Transition:

150MHz

Mounting Type:

Surface Mount

Supplier Device Package:

MiniP3-F1

## Environmental & Export classification

Moisture Sensitivity Level (MSL):

1 (Unlimited)

HTSUS:

8541.29.0075

ECCN:

EAR99

# 2SD1280

## Silicon NPN epitaxial planar type

For low-voltage type medium output power amplification

### ■ Features

- Low collector-emitter saturation voltage  $V_{CE(sat)}$
- Satisfactory operation performances at high efficiency with the low-voltage power supply.
- Mini power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	20	V
Collector-emitter voltage (Base open)	$V_{CEO}$	20	V
Emitter-base voltage (Collector open)	$V_{EBO}$	5	V
Collector current	$I_C$	1	A
Peak collector current	$I_{CP}$	2	A
Collector power dissipation *	$P_C$	1	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

Note) \*: Printed circuit board: Copper foil area of 1 cm<sup>2</sup> or more, and the board thickness of 1.7 mm for the collector portion

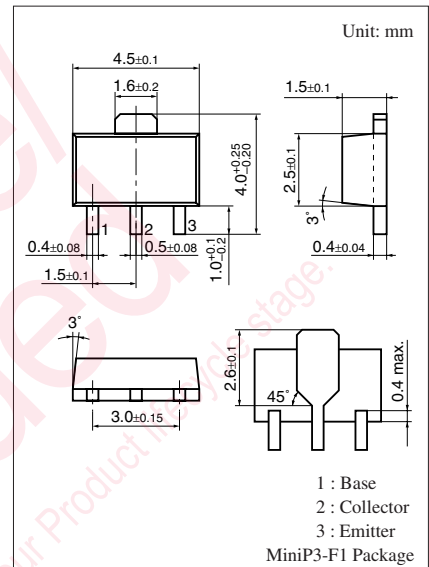
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 1 \text{ mA}, I_B = 0$	20			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu\text{A}, I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 10 \text{ V}, I_E = 0$			1	$\mu\text{A}$
Forward current transfer ratio	$h_{FE1}$ *	$V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}$	90		280	—
	$h_{FE2}$	$V_{CE} = 2 \text{ V}, I_C = 1.5 \text{ A}$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1 \text{ A}, I_B = 50 \text{ mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$			1.2	V
Transition frequency	$f_T$	$V_{CB} = 6 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$		150		MHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = 6 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		18		pF

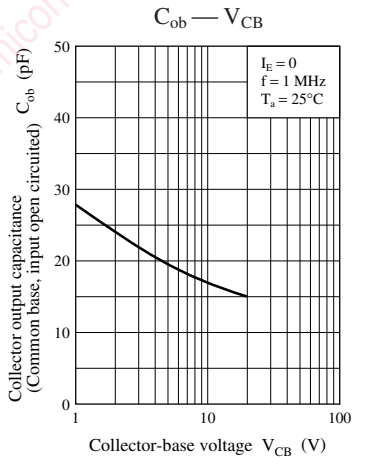
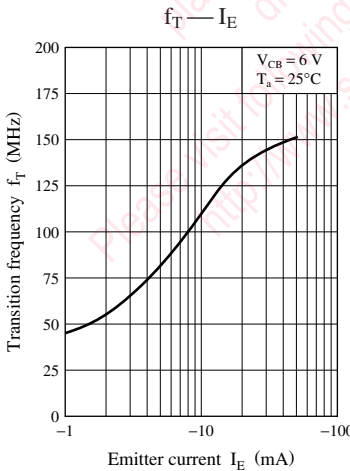
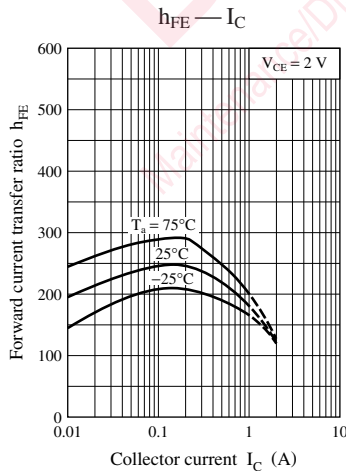
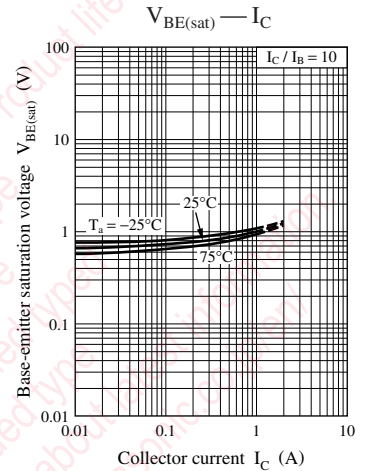
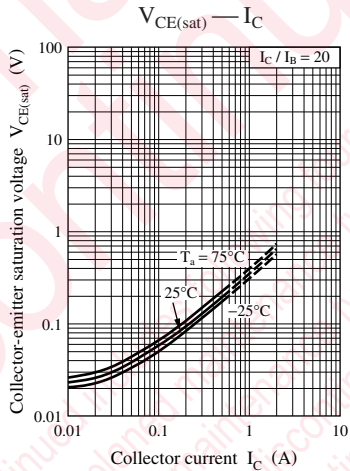
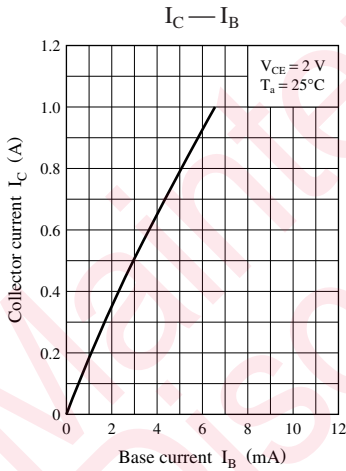
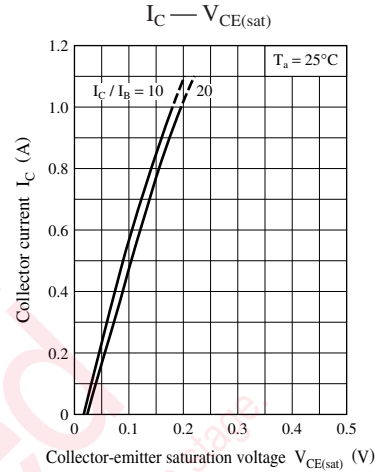
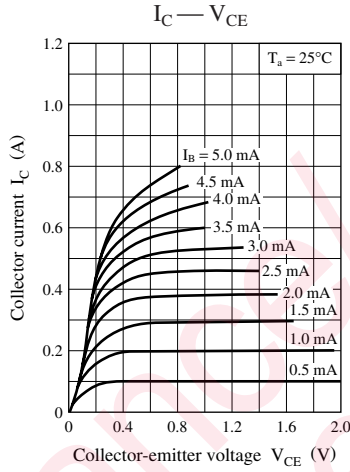
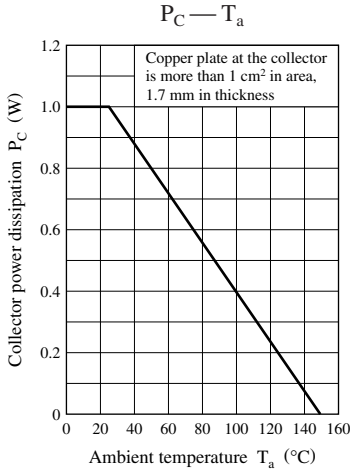
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

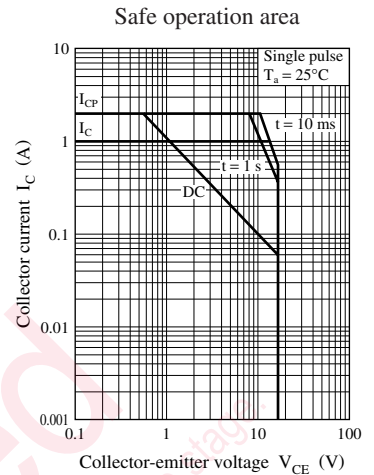
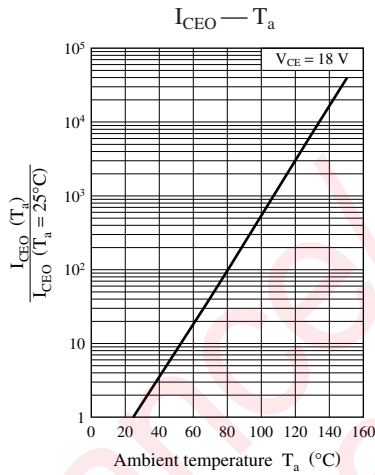
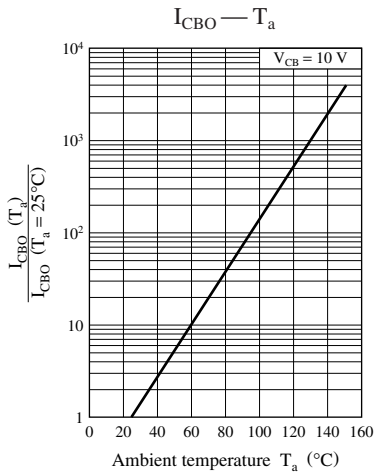
2. \*: Rank classification

Rank	Q	R	S
$h_{FE1}$	90 to 155	130 to 210	180 to 280



Marking Symbol: R





Maintenance/Discontinued includes following four Product lifecycle stages:  
 planned maintenance type  
 maintenance type  
 planned discontinued type  
 discontinued type  
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