



ON Semiconductor®

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# 2SD1207

## Bipolar Transistor 50V, 2A, Low VCE(sat) NPN Single MP

### Applications

- Power supplies, relay drivers, lamp drivers, and automotive wiring

### Features

- FBET and MBIT processed
- Low saturation voltage
- Large current capacity and wide SOA

### Specifications

**Absolute Maximum Ratings** at Ta = 25°C

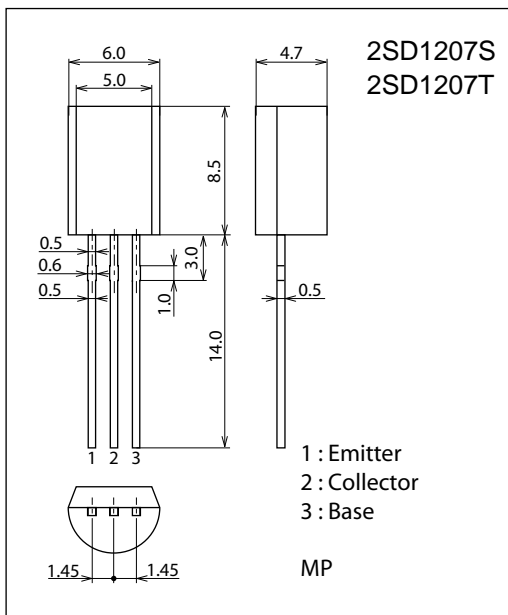
Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	V <sub>CB0</sub>		60	V
Collector to Emitter Voltage	V <sub>CEO</sub>		50	V
Emitter to Base Voltage	V <sub>EB0</sub>		6	V
Collector Current	I <sub>C</sub>		2	A
Collector Current (Pulse)	I <sub>CP</sub>		4	A
Collector Dissipation	PC		1	W
Junction Temperature	T <sub>j</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

### Package Dimensions

unit : mm (typ)

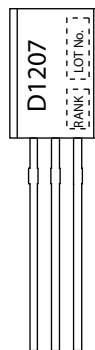
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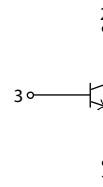
### Product & Package Information

- Package : MP
- JEITA, JEDEC : SC-51, TO-92(1-WATT), TO-226AE
- Minimum Packing Quantity : 1,000 pcs./box

### Marking



### Electrical Connection



# 2SD1207

## Electrical Characteristics at Ta = 25°C

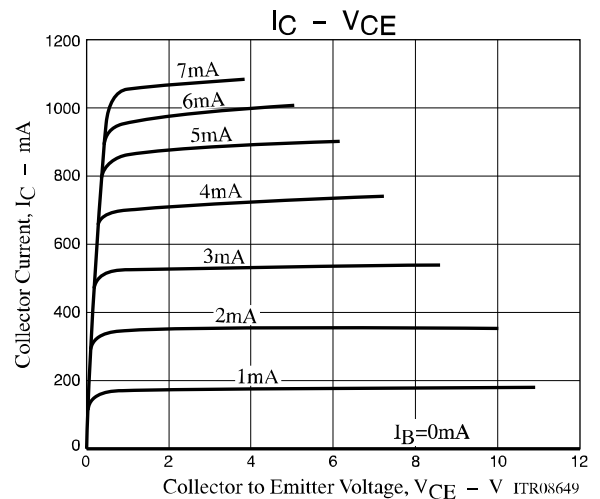
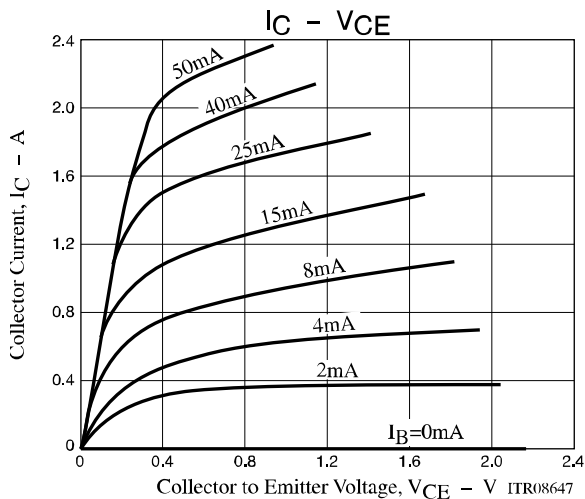
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V <sub>CB</sub> =50V, I <sub>E</sub> =0A			0.1	μA
Emitter Cutoff Current	IEBO	V <sub>EB</sub> =4V, I <sub>C</sub> =0A			0.1	μA
DC Current Gain	hFE1	V <sub>CE</sub> =2V, I <sub>C</sub> =100mA	140		400	
	hFE2	V <sub>CE</sub> =2V, I <sub>C</sub> =1.5A	40			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =50mA		150		MHz
Output Capacitance	Cob	V <sub>CB</sub> =10V, f=1MHz		12		pF
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =50mA		0.15	0.4	V
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =50mA		0.9	1.2	V
Collector to Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0A	60			V
Collector to Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, R <sub>BE</sub> =∞	50			V
Emitter to Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0A	6			V

\*: The 2SD1207 is graded as follows by hFE at 100mA :

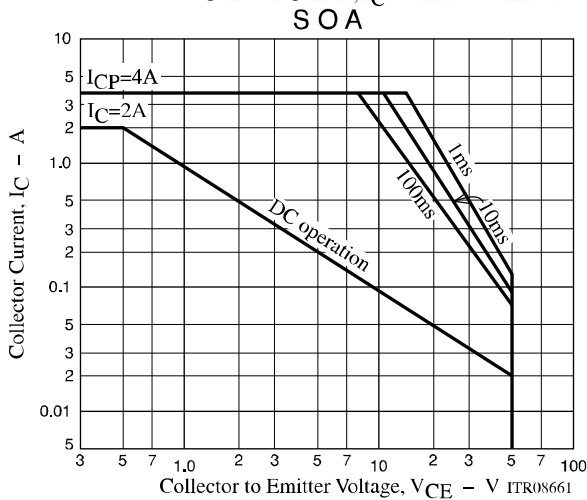
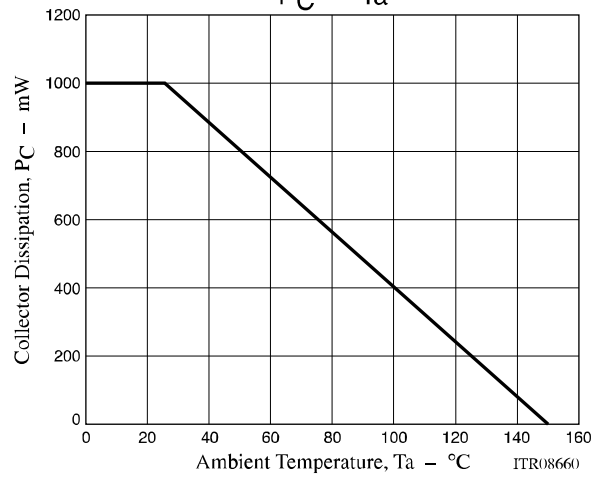
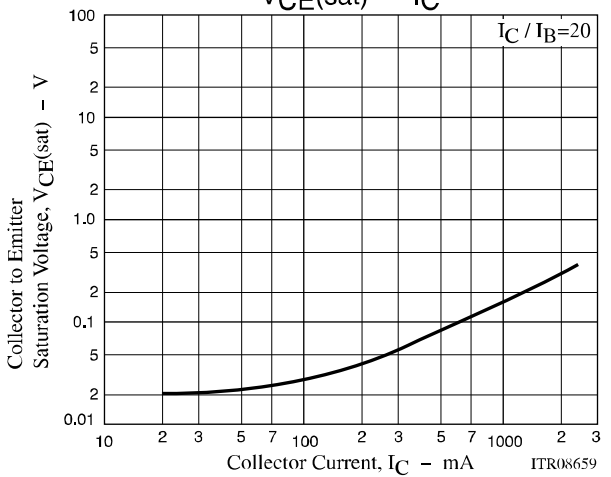
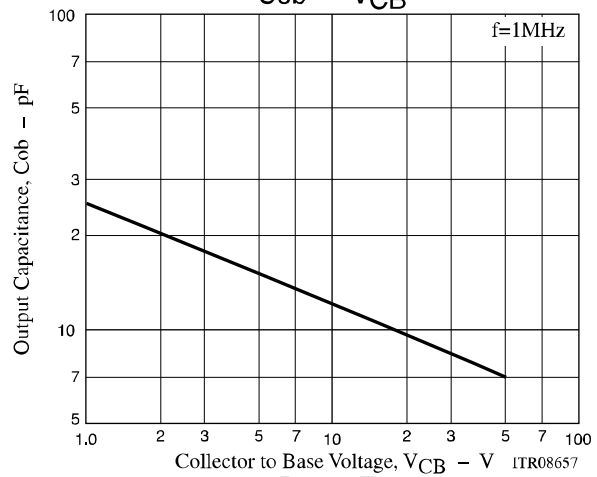
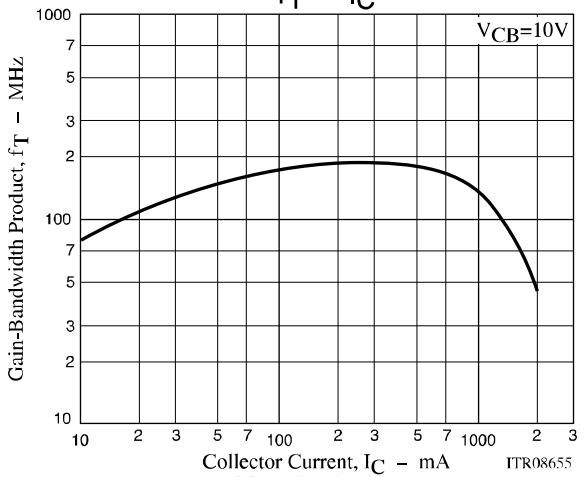
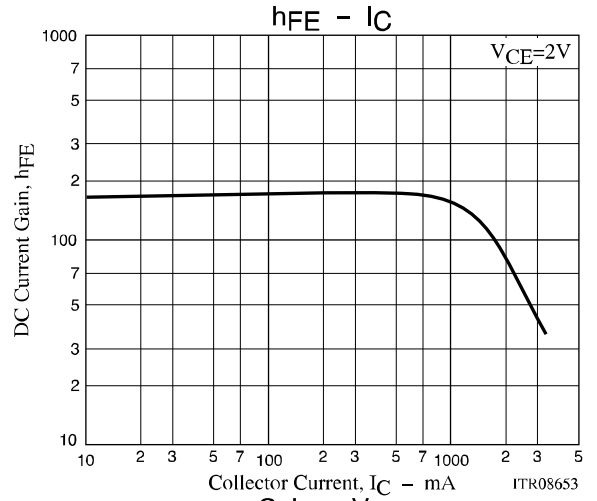
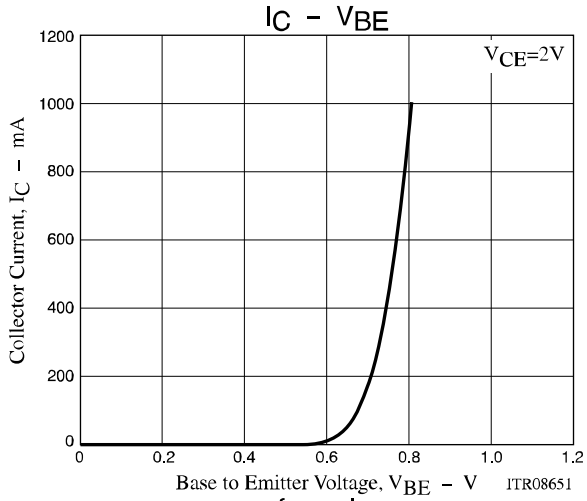
Rank	S	T
hFE	140 to 280	200 to 400

## Ordering Information

Device	Package	Shipping	Memo
2SD1207S	MP	500pcs./bag	Pb Free
2SD1207S-AE		1,000pcs./box	
2SD1207T		500pcs./bag	
2SD1207T-AE		1,000pcs./box	



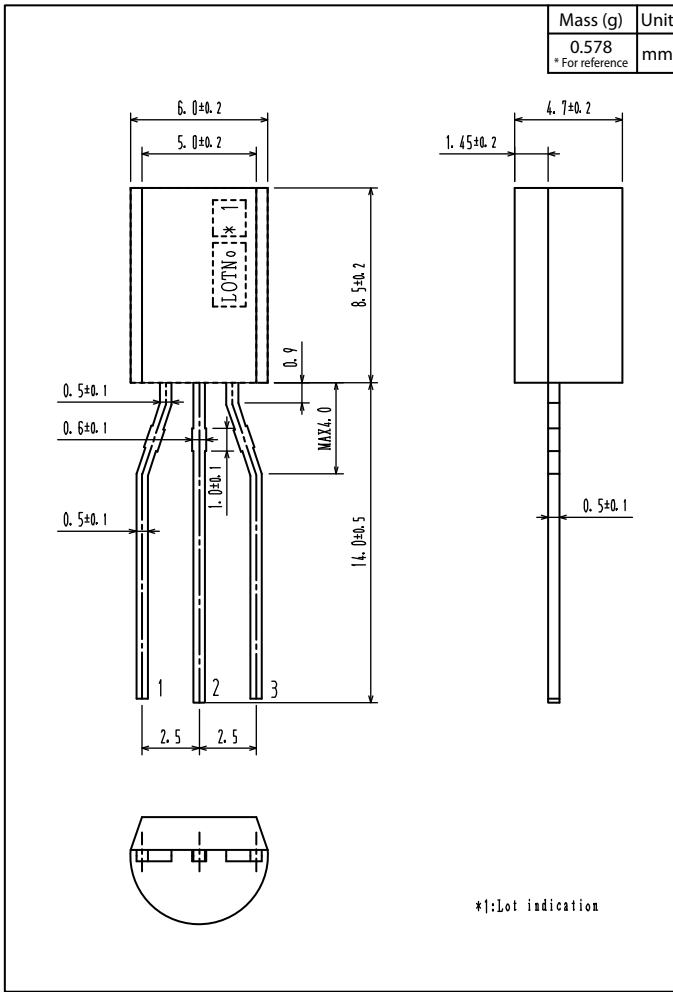
# 2SD1207



Outline Drawing

2SD1207S-AE

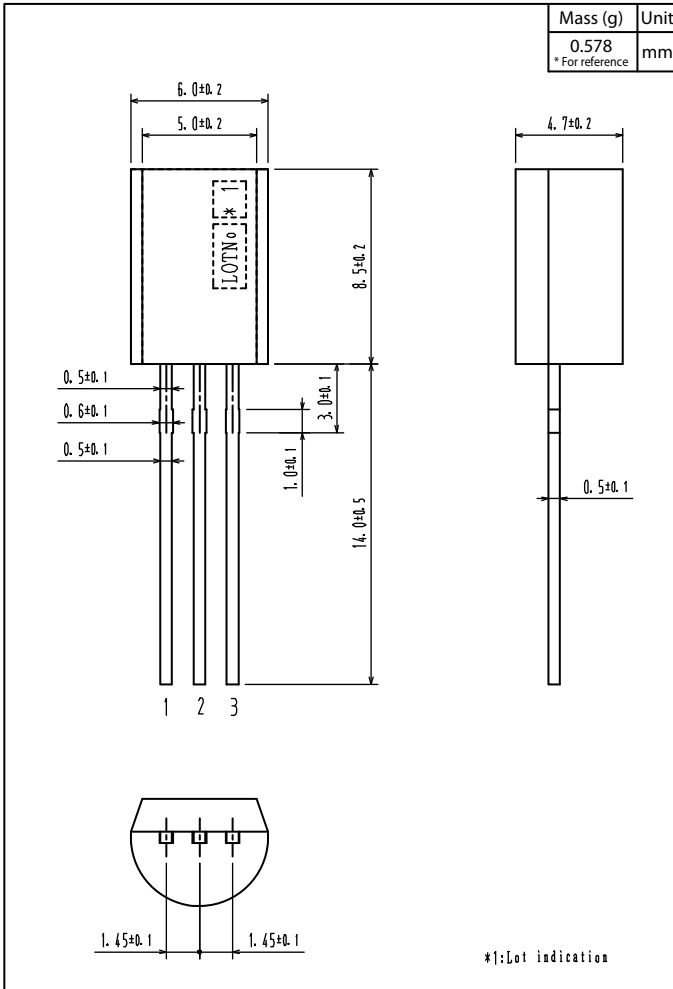
2SD1207T-AE



Outline Drawing

2SD1207S

2SD1207T



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