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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 $T_a = 25^\circ\text{C}$

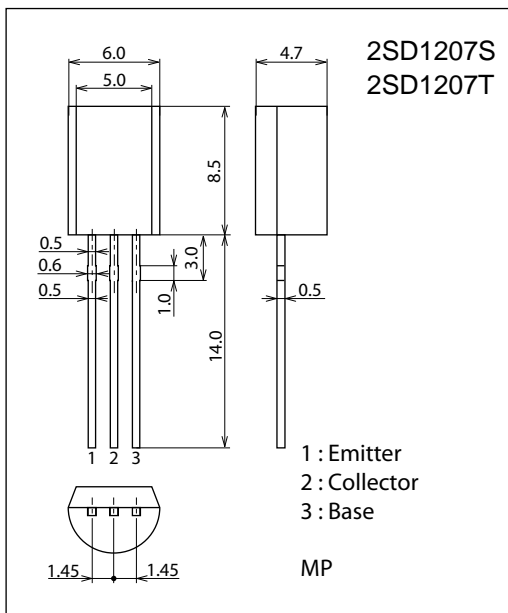
Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	V_{CB0}		60	V
Collector to Emitter Voltage	V_{CEO}		50	V
Emitter to Base Voltage	V_{EBO}		6	V
Collector Current	I_C		2	A
Collector Current (Pulse)	I_{CP}		4	A
Collector Dissipation	PC		1	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

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)

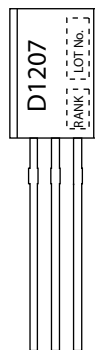
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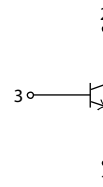
Product & Package Information

- 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

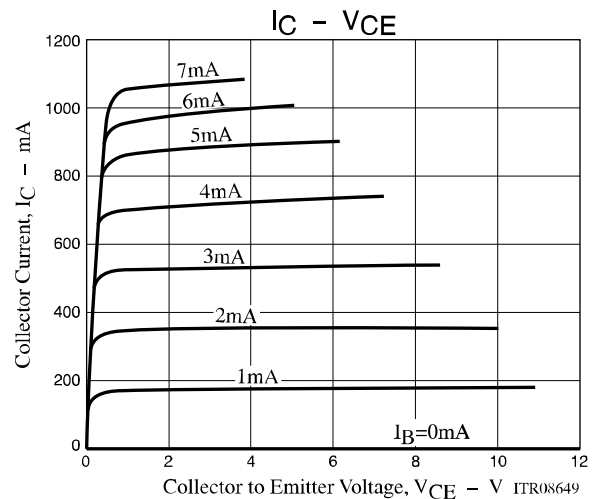
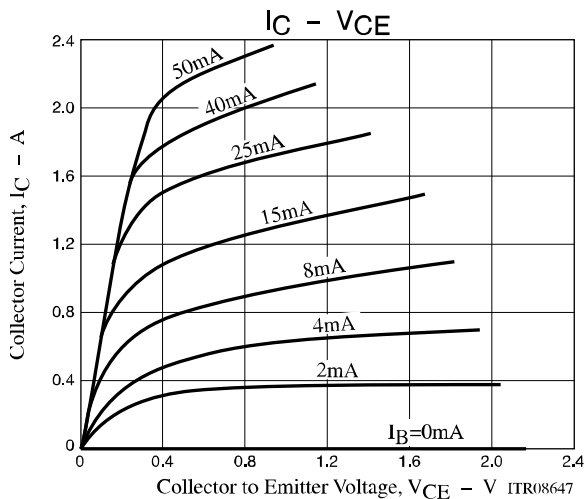
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =50V, I _E =0A			0.1	μA
Emitter Cutoff Current	IEBO	V _{EB} =4V, I _C =0A			0.1	μA
DC Current Gain	hFE1	V _{CE} =2V, I _C =100mA	140		400	
	hFE2	V _{CE} =2V, I _C =1.5A	40			
Gain-Bandwidth Product	f _T	V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

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

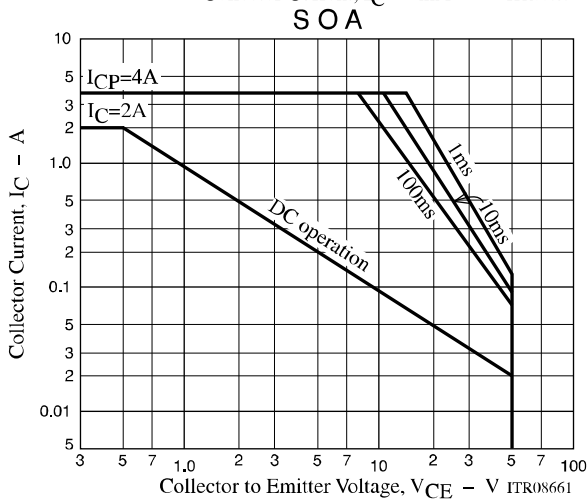
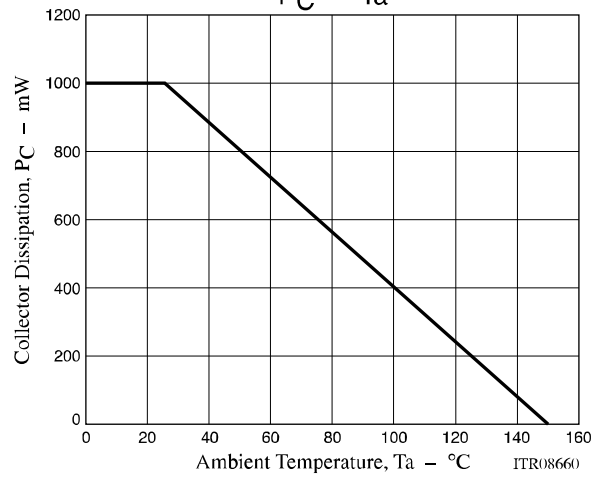
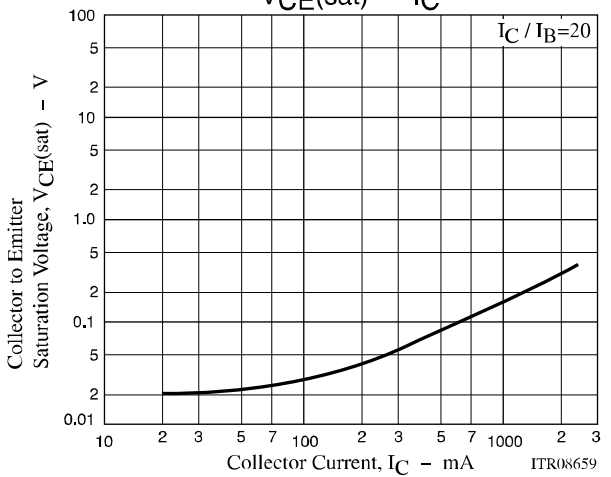
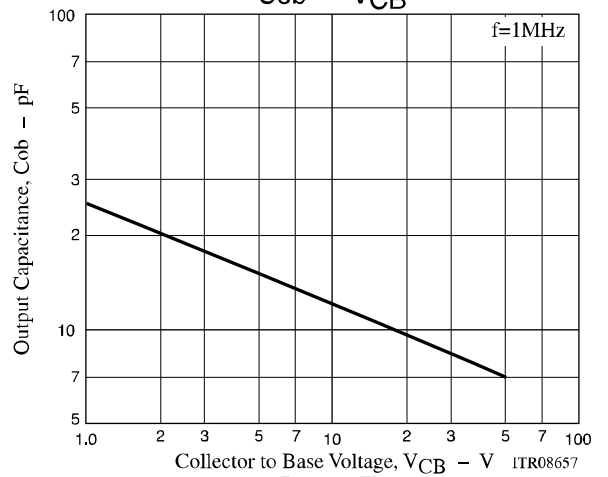
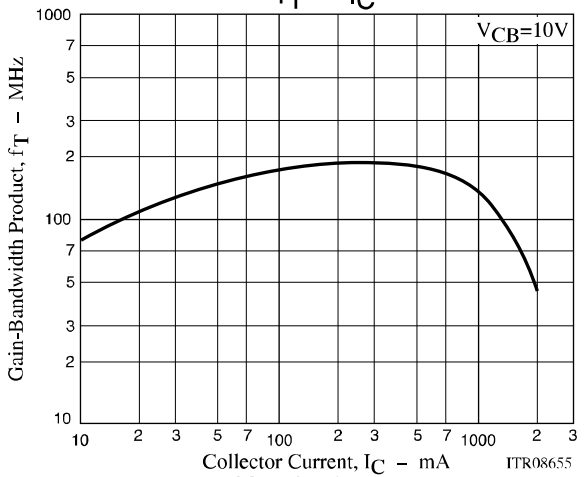
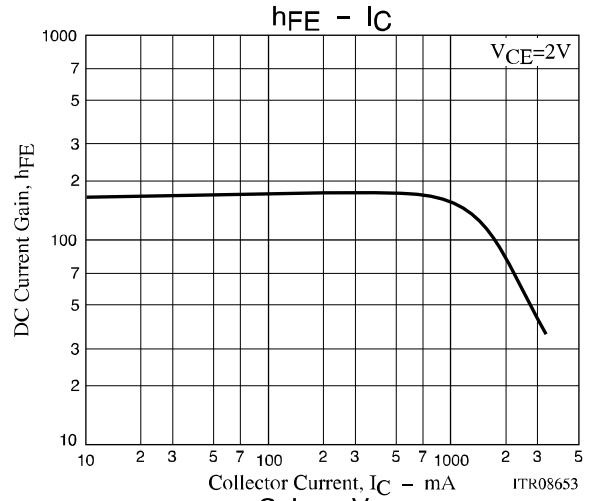
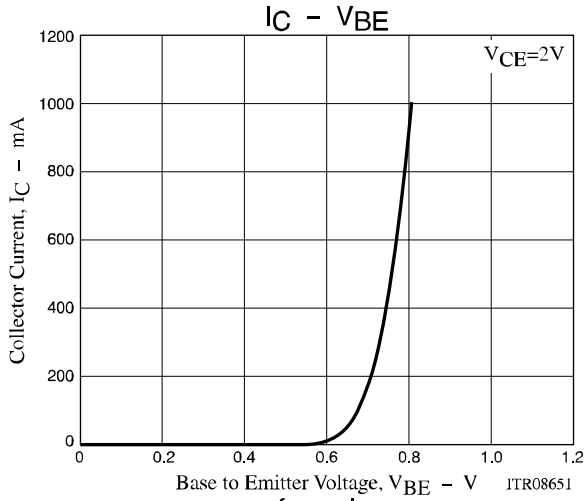
Rank	S	T
hFE	140 to 280	200 to 400

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

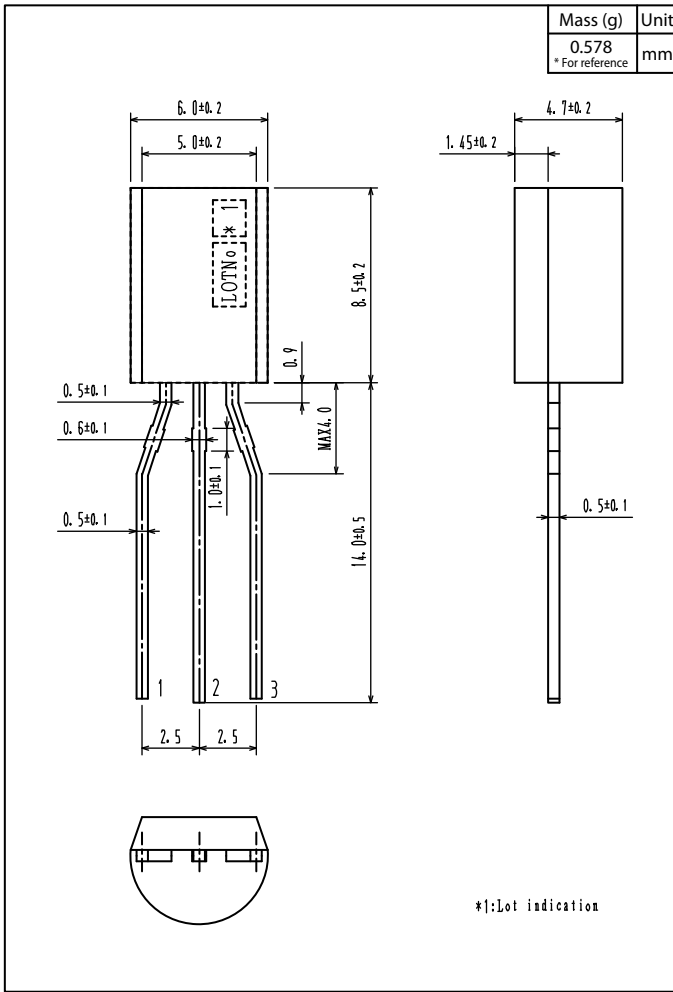


2SD1207

Outline Drawing

2SD1207S-AE

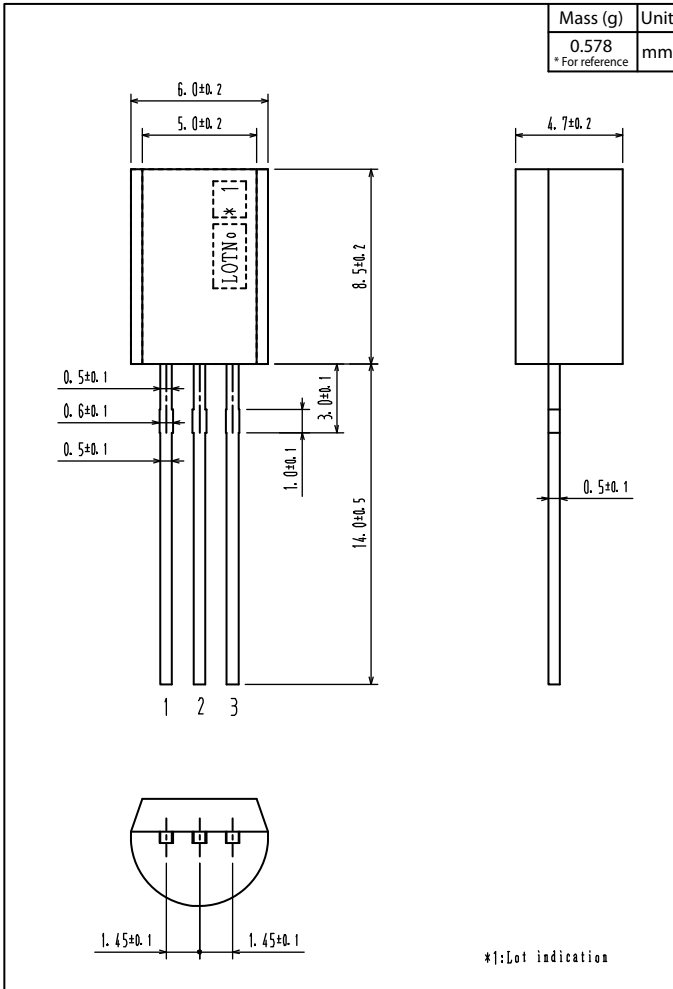
2SD1207T-AE



Outline Drawing

2SD1207S

2SD1207T



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