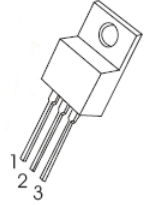


# TO-220-3L Plastic-Encapsulate Transistors

## 2SB507 TRANSISTOR (PNP)

### TO-220-3L

- 1. BASE
- 2. COLLECTOR
- 3. EMITTER



### FEATURES

- Low Collector-Emitter Saturation Voltage  
V<sub>ce(sat)</sub> = -1V(MAX) @ I<sub>C</sub> = -2A, I<sub>B</sub> = -0.2A
- DC Current Gain h<sub>FE</sub> = 40~320 @ I<sub>C</sub> = -1A
- Complementray to NPN 2SD313

### MAXIMUM RATINGS (T<sub>a</sub> = 25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	-60	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-60	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current -Continuous	-3	A
P <sub>C</sub>	Collector Power Dissipation	1.75	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55-150	°C

### ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C unless otherwise specified)

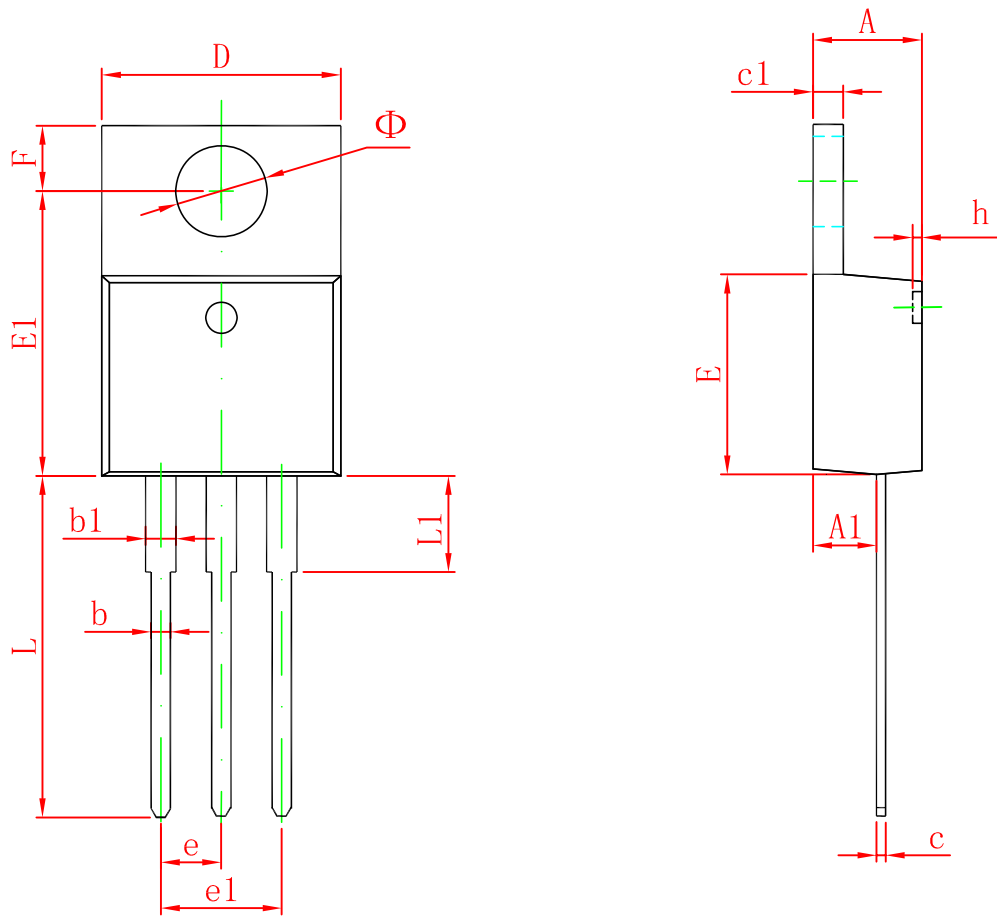
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -100μA, I <sub>E</sub> = 0	-60			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -10mA, I <sub>B</sub> = 0	-60			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -100μA, I <sub>C</sub> = 0	-5			V
Collector cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> = -20V, I <sub>E</sub> = 0			-100	μA
Collector cut-off current	I <sub>CEO</sub>	V <sub>CE</sub> = -60V, I <sub>E</sub> = 0			-5	mA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = -4V, I <sub>C</sub> = 0			-1	mA
DC current gain <sup>(1)</sup>	h <sub>FE(1)</sub> <sup>(1)</sup>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -1A	40		320	
	h <sub>FE(2)</sub> <sup>(1)</sup>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -0.1A	40			
Collector-emitter saturation voltage <sup>(1)</sup>	V <sub>CE(sat)</sub> <sup>(1)</sup>	I <sub>C</sub> = -2A, I <sub>B</sub> = -200mA			-1	V
Base-emitter voltage <sup>(1)</sup>	V <sub>BE</sub> <sup>(1)</sup>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -1A			-1.5	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -500mA, f = 1MHz	5			MHz

<sup>(1)</sup>Pulse Test: Pulse Width = 300μs, Duty Cycle ≤ 2.0%

### CLASSIFICATION OF h<sub>FE(1)</sub>

Rank	C	D	E	F
Range	40-80	60-120	100-200	160-320

# TO-220-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
E1	12.060	12.460	0.475	0.491
e	2.540 TYP		0.100 TYP	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
$\Phi$	3.735	3.935	0.147	0.155