

TO-220-3L Plastic-Encapsulate Transistors

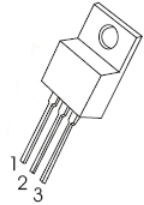
2SB507 TRANSISTOR (PNP)

FEATURES

- Low Collector-Emitter Saturation Voltage
 $V_{ce(sat)} = -1V(\text{MAX}) @ I_C = -2A, I_B = -0.2A$
- DC Current Gain $h_{FE} = 40 \sim 320 @ I_C = -1A$
- Complementary to NPN 2SD313

TO-220-3L

1. BASE
2. COLLECTOR
3. EMITTER



MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-3	A
P_C	Collector Power Dissipation	1.75	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -20\text{V}, I_E = 0$			-100	μA
Collector cut-off current	I_{CEO}	$V_{CE} = -60\text{V}, I_E = 0$			-5	mA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$			-1	mA
DC current gain ⁽¹⁾	$h_{FE(1)}$ ⁽¹⁾	$V_{CE} = -2\text{V}, I_C = -1\text{A}$	40		320	
	$h_{FE(2)}$ ⁽¹⁾	$V_{CE} = -2\text{V}, I_C = -0.1\text{A}$	40			
Collector-emitter saturation voltage ⁽¹⁾	$V_{CE(sat)}$ ⁽¹⁾	$I_C = -2\text{A}, I_B = -200\text{mA}$			-1	V
Base-emitter voltage ⁽¹⁾	V_{BE} ⁽¹⁾	$V_{CE} = -2\text{V}, I_C = -1\text{A}$			-1.5	V
Transition frequency	f_T	$V_{CE} = -5\text{V}, I_C = -500\text{mA}, f = 1\text{MHz}$	5			MHz

⁽¹⁾Pulse Test: Pulse Width=300 μs , Duty Cycle \leq 2.0%

CLASSIFICATION OF $h_{FE(1)}$

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