

TO-220-3L Plastic-Encapsulate Transistors

2SD313 TRANSISTOR (NPN)

FEATURES

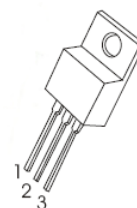
- Low Collector-Emitter Saturation Voltage
 $V_{ce(sat)}=1V(MAX)@I_C=2A, I_B=0.2A$
- DC Current Gain $h_{FE}=40\sim 320@I_C=1A$
- Complementray to PNP 2SB507

MAXIMUM RATINGS ($T_a=25^\circ C$ 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	$^\circ C$
T_{stg}	Storage Temperature	-55-150	$^\circ C$

TO-220-3L

1. BASE
2. COLLECTOR
3. EMITTER



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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=60V, I_E=0$			100	μA
Collector cut-off current	I_{CEO}	$V_{CE}=60V, I_E=0$			1	mA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$			100	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=2V, I_C=1A$	40		320	
	$h_{FE(2)}$	$V_{CE}=2V, I_C=0.1A$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2A, I_B=200mA$			1	V
Base-emitter voltage	V_{BE}	$V_{CE}=2V, I_C=1A$			1.5	V
Transition frequency	f_T	$V_{CE}=5V, I_C=500mA$		8		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		65		pF

CLASSIFICATION OF $h_{FE(1)}$

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