

2SD313 TRANSISTOR (NPN)**FEATURES**

Power dissipation

 P_{CM} : 1.75 W ($T_{amb}=25^{\circ}C$)

Collector current

 I_{CM} : 3 A

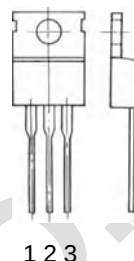
Collector-base voltage

 $V_{(BR)CBO}$: 60 V

Operating and storage junction temperature range

 T_J, T_{stg} : $-55^{\circ}C$ to $+150^{\circ}C$ **TO-220**

1. BASE
2. COLLECTOR
3. EMITTER

**ELECTRICAL CHARACTERISTICS** ($T_{amb}=25^{\circ}C$ 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