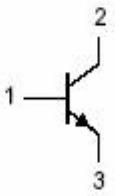
isc Silicon NPN Power Transistor — 2SD313



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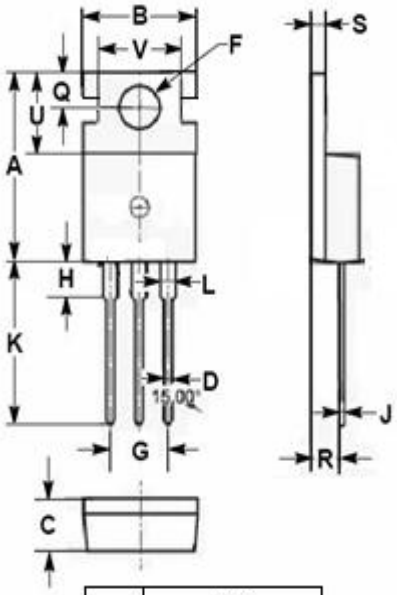
PIN 1. BASE
2. COLLECTOR
3. EMITTER
TO-220C package

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 60V(Min)
- Low Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$= 1.0V(Max) @I_C= 2.0A
- Complement to Type 2SB507
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for the output stage of 15W to 25W AF power amplifier.



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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	3.0	A
I_{CM}	Collector Current-Peak	8.0	A
P_C	Collector Power Dissipation @ T_a=25℃	1.75	W
	Collector Power Dissipation @ T_C=25℃	30	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-40~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	4.16	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 10mA ; I_B= 0	60			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 2A; I_B= 0.2A		0.4	1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 1A ; V_{CE}= 2V			1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 60V ; I_E= 0			100	μA
I_{CEO}	Collector Cutoff Current	V_{CE}= 60V ; I_B= 0			5	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 4V ; I_C= 0			1	mA
h_{FE-1}	DC Current Gain	I_C= 1A ; V_{CE}= 2V	40		320	
h_{FE-2}	DC Current Gain	I_C= 0.1A ; V_{CE}= 2V	40			
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A; V_{CE}= 5V;f_{test}= 1.0MHz		8		MHz

◆ **h_{FE-1} Classifications**

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