

SPTECH Silicon NPN Power Transistor**2SD313****DESCRIPTION**

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 60V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.0V(\text{Max}) @ I_C = 2.0A$
- Complement to Type 2SB507

APPLICATIONS

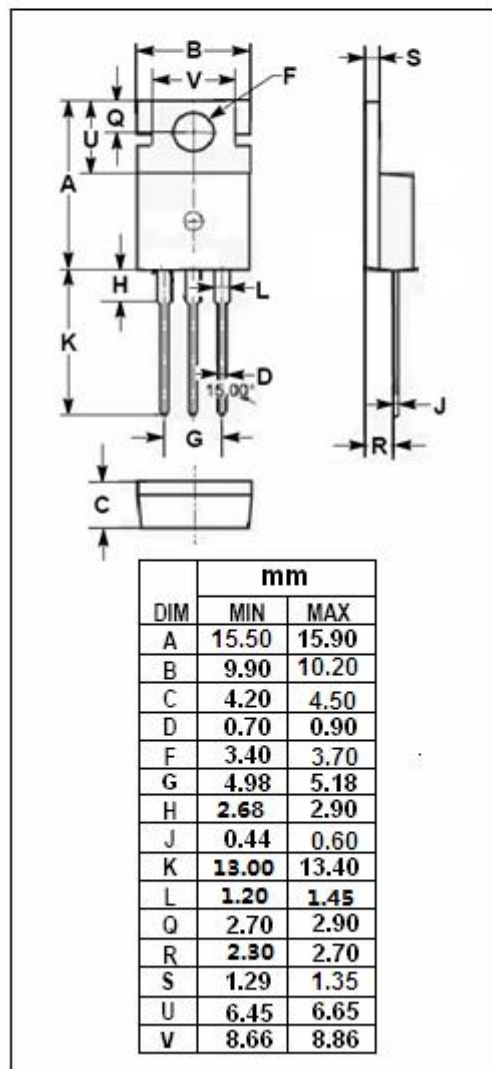
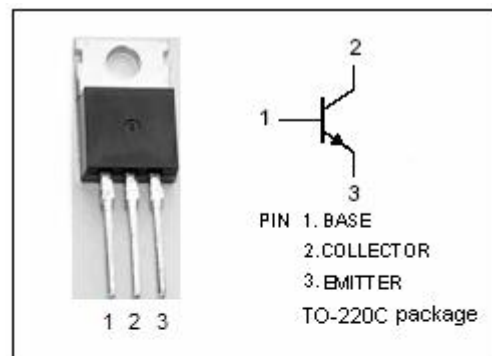
- Designed for the output stage of 15W to 25W AF power amplifier.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

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 @ $T_a=25^\circ\text{C}$	1.75	W
	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	30	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-40~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

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



SPTECH Silicon NPN Power Transistor**2SD313****ELECTRICAL CHARACTERISTICS****T_C=25°C 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	μ A
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