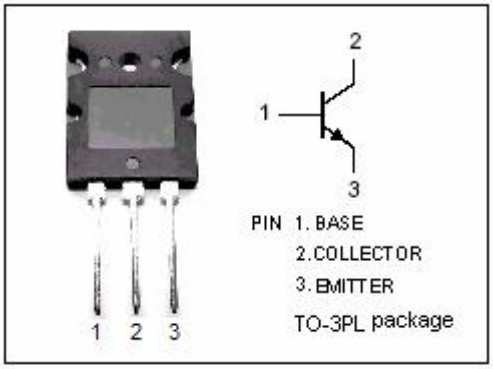
isc Silicon NPN Power Transistor — 2SD1975

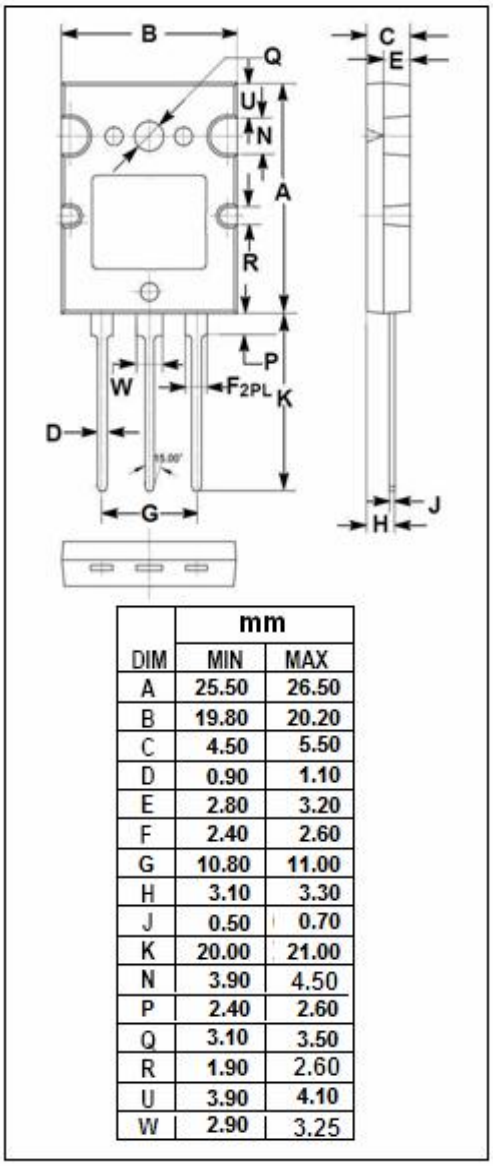


DESCRIPTION

- Good Linearity of h_{FE}
- Wide Area of Safe Operation
- High DC Current-Gain Bandwidth Product
- Complement to Type 2SB1317
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- High power amplification
- Optimum for the output stage of a Hi-Fi audio amplifier.



DIM	mm MIN	mm MAX
A	25.50	26.50
B	19.80	20.20
C	4.50	5.50
D	0.90	1.10
E	2.80	3.20
F	2.40	2.60
G	10.80	11.00
H	3.10	3.30
J	0.50	0.70
K	20.00	21.00
N	3.90	4.50
P	2.40	2.60
Q	3.10	3.50
R	1.90	2.60
U	3.90	4.10
W	2.90	3.25

ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	180	V
V_{CEO}	Collector-Emitter Voltage	180	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	25	A
P_C	Collector Power Dissipation @ T_a=25℃	3.5	W
	Collector Power Dissipation @ T_C=25℃	150	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 1A			2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 8A ; V_{CE}= 5V			1.8	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 180V ; I_E= 0			50	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 3V; I_C= 0			50	μA
h_{FE-1}	DC Current Gain	I_C= 20mA ; V_{CE}= 5V	20			
h_{FE-2}	DC Current Gain	I_C= 1A ; V_{CE}= 5V	60		200	
h_{FE-3}	DC Current Gain	I_C= 8A ; V_{CE}= 5V	20			
C_{OB}	Output Capacitance	I_E= 0;V_{CB}= 10V; f_{test}= 1.0MHz		200		pF
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A;V_{CE}= 5V;f_{test}= 1.0MHz		20		MHz

◆ **h_{FE-2} Classifications**

Q	S	P
60-120	80-160	100-200