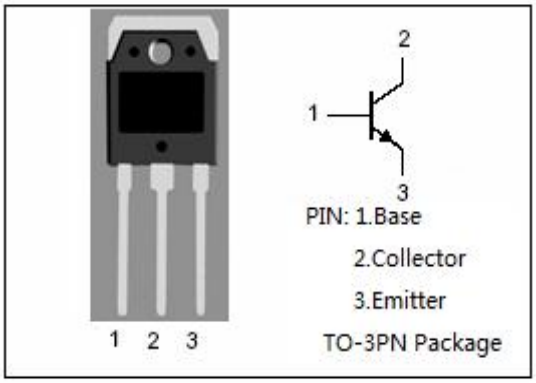
isc Silicon NPN Power Transistor — 2SD1047

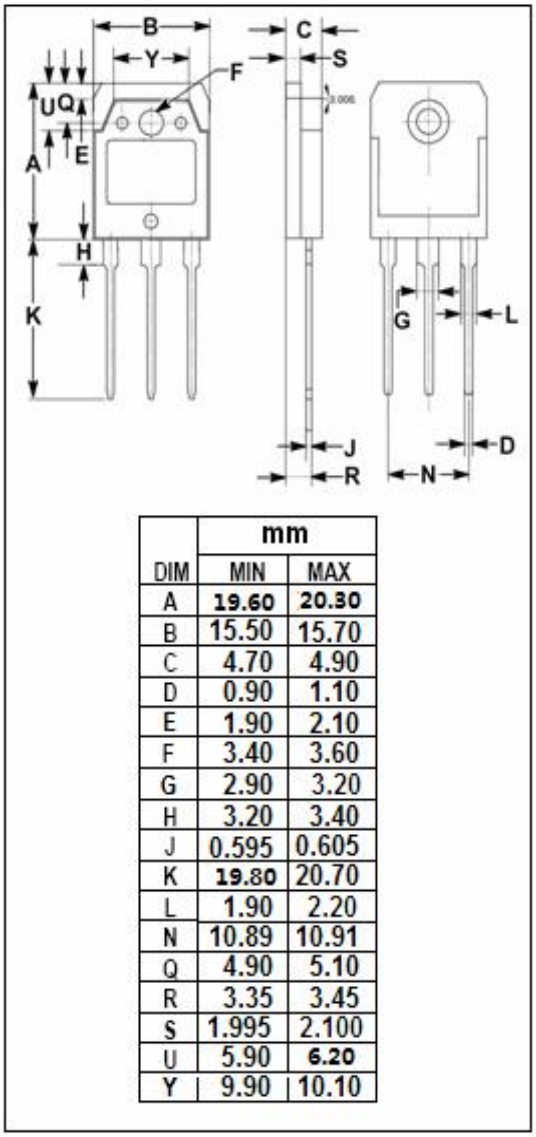
DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 140V(Min)
- Good Linearity of h_{FE}
- High Current Capability
- Wide Area of Safe Operation
- Complement to Type 2SB817
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- Recommend for 60W audio frequency amplifier output stage applications



DIM	mm MIN	mm MAX
A	19.60	20.30
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.20
H	3.20	3.40
J	0.595	0.605
K	19.80	20.70
L	1.90	2.20
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.100
U	5.90	6.20
Y	9.90	10.10

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	160	V
V_{CEO}	Collector-Emitter Voltage	140	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	12	A
I_{CP}	Collector Current-Pulse	15	A
P_C	Collector Power Dissipation @ T_C=25℃	100	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-40~150	℃

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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= 30mA ; R_{BE}= ∞	140			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C=1mA; I_E= 0	160			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 5mA; I_C= 0	6			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 5.0A; I_B= 0.5A		0.6	2.5	V
$V_{BE(on)}$	Base -Emitter On Voltage	I_C= 1A ; V_{CE}= 5V			1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 80V ; I_E= 0			100	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 4V; I_C= 0			100	μA
h_{FE-1}	DC Current Gain	I_C= 1A ; V_{CE}= 5V	60		200	
h_{FE-2}	DC Current Gain	I_C= 6A ; V_{CE}= 5V	20			
C_{OB}	Output Capacitance	I_E= 0;V_{CB}= 10V;f_{test}= 1.0MHz		210		pF
f_T	Current-Gain—Bandwidth Product	I_C= 1A ; V_{CE}= 5V		15		MHz
Switching times						
t_{on}	Turn-on Time	I_C= 1A ,R_L= 20Ω , I_{B1}= I_{B2}= 0.1A,V_{CC}≒ 20V		0.26		μs
t_{stg}	Storage Time			6.88		μs
t_f	Fall Time			0.68		μs

◆ **h_{FE-1} Classifications**

D	E
60-120	100-200

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