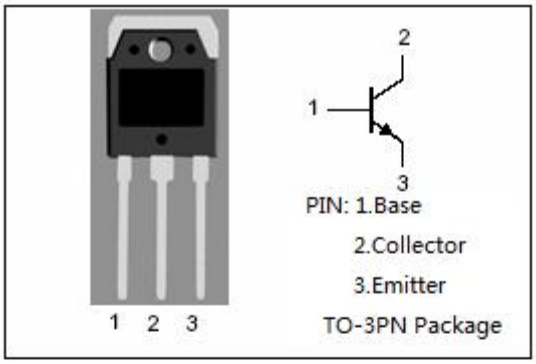
isc Silicon NPN Power Transistor — 2SD2140

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 140V(Min)
- Wide Area of Safe Operation
- Complement to Type 2SB1421
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

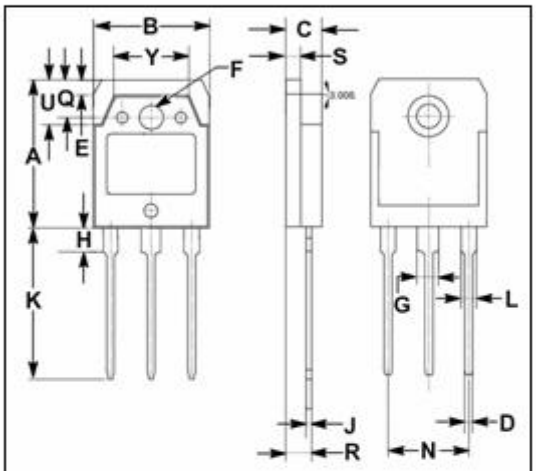


APPLICATIONS

- Designed for high power amplifications.
- Optimum for the output stage of a HiFi audio amplifier

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	140	V
V_{CEO}	Collector-Emitter Voltage	140	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	7	A
I_{CP}	Collector Current-Pulse	12	A
P_C	Collector Power Dissipation @ T_C=25℃	80	W
	Collector Power Dissipation @ T_a=25℃	2.5	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



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

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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= 5A; I_B= 0.5A			2.0	V
$V_{BE(on)}$	Base -Emitter On Voltage	I_C= 5A; V_{CE}= 5V			1.8	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 140V; 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= 5A; V_{CE}= 5V	20			
C_{OB}	Collector Output Capacitance	I_E= 0; V_{CB}= 10V; f= 1MHz		110		pF
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A; V_{CE}= 5 V; f= 1MHz		20		MHz

◆ **h_{FE-2}Classifications**

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