

isc Silicon NPN Power Transistor

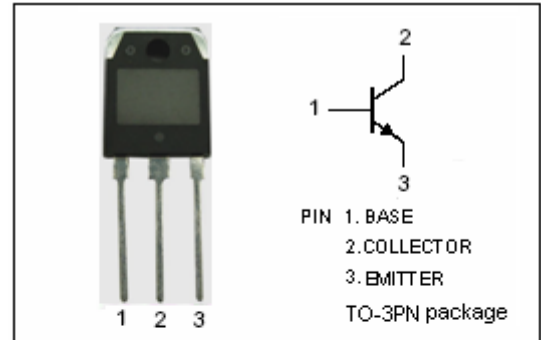
2SD2140

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 140V(\text{Min})$
- Wide Area of Safe Operation
- Complement to Type 2SB1421

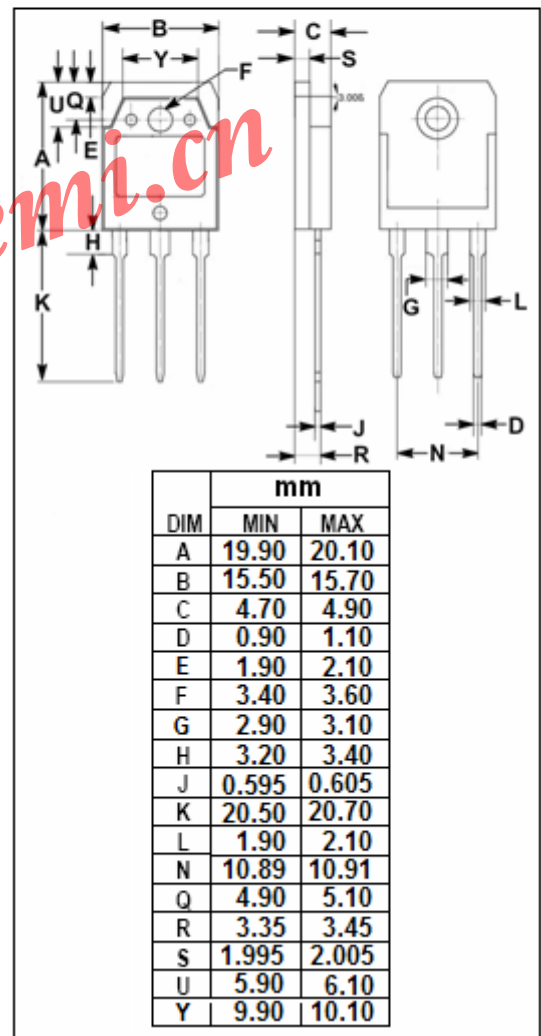
APPLICATIONS

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



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

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 @ $T_C=25^\circ\text{C}$	80	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2.5	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Power Transistor**2SD2140****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$ 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