

**isc Silicon NPN Power Transistor**

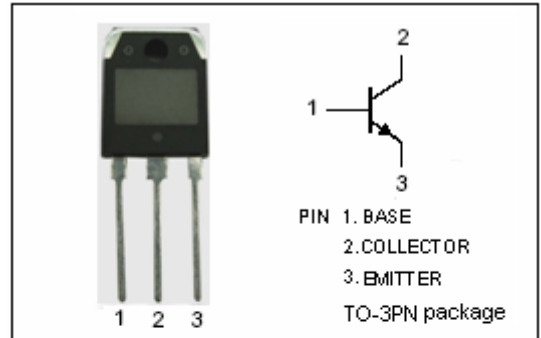
**2SD2140**

**DESCRIPTION**

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

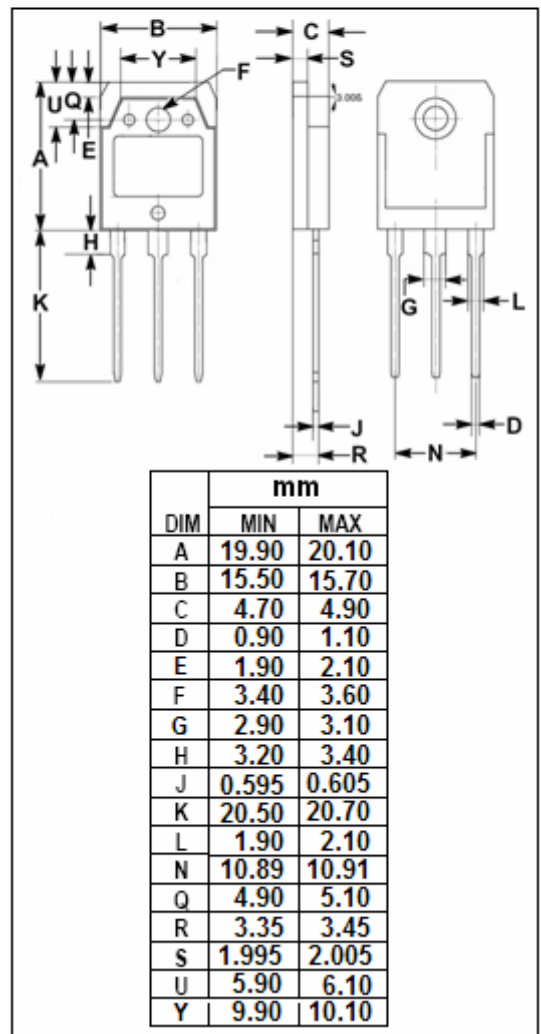
**APPLICATIONS**

- 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	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 3V; I_C= 0$			50	$\mu\text{A}$
$h_{FE-1}$	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	$I_C= 0.5A; V_{CE}= 5\text{ V}; f= 1MHz$		20		MHz

◆  **$h_{FE-2}$  Classifications**

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