

isc Silicon NPN Power Transistor

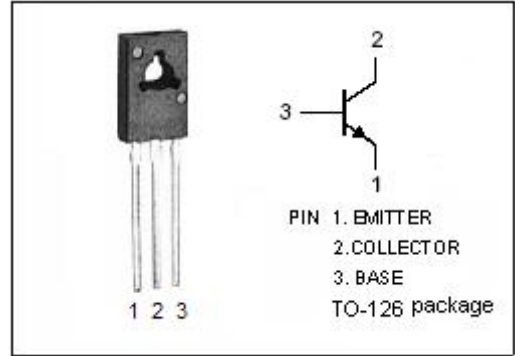
ISCE18114

DESCRIPTION

- Collector–Emitter Sustaining Voltage—
: $V_{CEO(SUS)} = 40\text{ V}$
- DC Current Gain—
: $h_{FE} = 30(\text{Min}) @ I_C = 0.5\text{ A}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

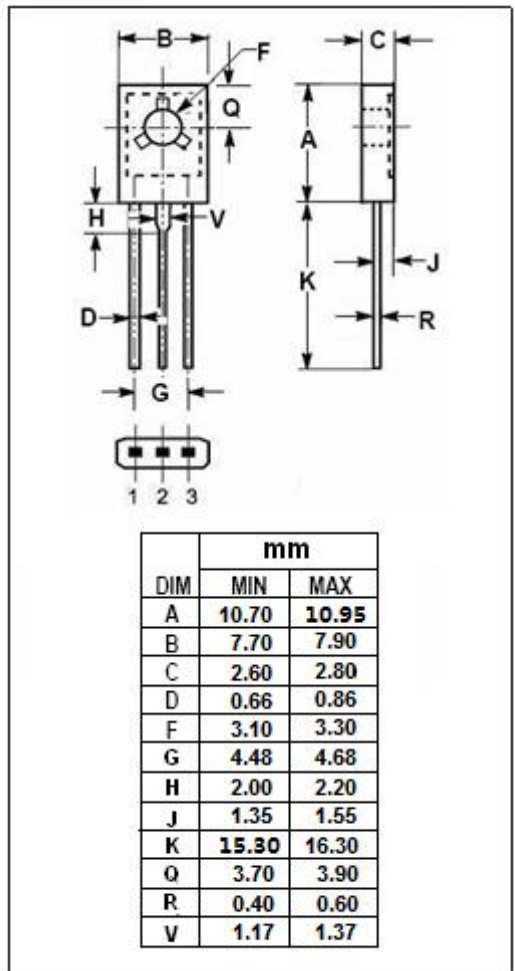
APPLICATIONS

- Low power audio amplifier
- Low current high speed switching applications



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	2	A
I_{CM}	Collector Current-peak	6	A
P_C	Collector Power Dissipation $T_a=25^\circ\text{C}$	1.5	W
	Collector Power Dissipation $T_C=25^\circ\text{C}$	15	
T_i	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	8.3	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	85	$^\circ\text{C/W}$

isc Silicon NPN Power Transistor**ISCE18114****ELECTRICAL CHARACTERISTICS****T_c =25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CE0(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 10mA; I _B = 0	40		V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 0.5 A ;I _B = 50mA		0.5	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 1.5A ;I _B = 0.15 A		0.9	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = 1.5A; I _B = 0.15A		1.5	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C =2A; I _B = 0.6A		2.0	V
V _{BE(on)}	Base-Emitter On Voltage	V _{CE} = 1V; I _C = 0.5A		1.2	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 80V; I _E = 0		0.1	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7V; I _C = 0		0.1	μ A
h _{FE}	DC Current Gain	I _C = 0.5A ; V _{CE} = 1V	30		