

isc Silicon NPN Power Transistor

2SC1024

DESCRIPTION

- DC Current Gain $-h_{FE} = 25(\text{Min}) @ I_C = 1.0\text{A}$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = 50\text{V}(\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation.

APPLICATIONS

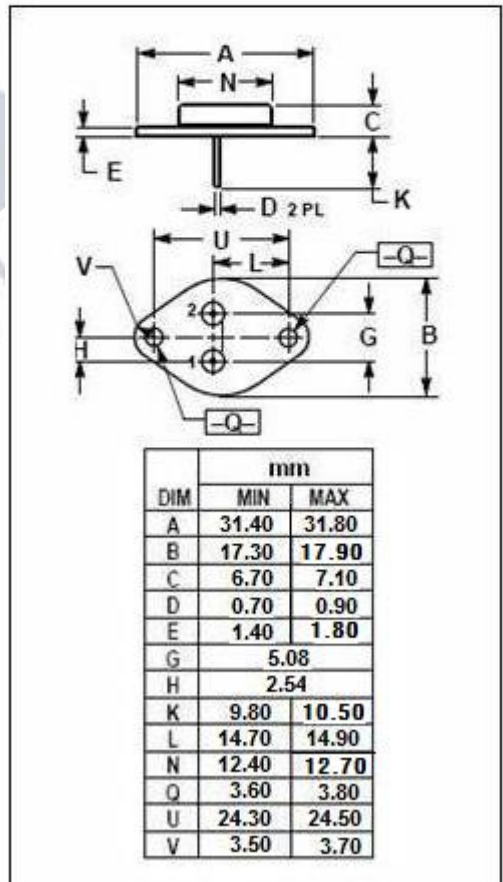
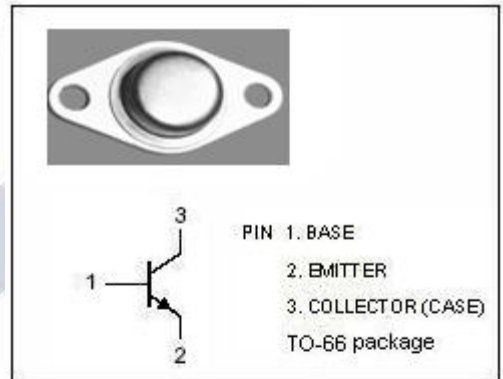
- Designed for use in general purpose power amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	3.0	A
I_{CM}	Collector Current-Peak	5.0	A
I_B	Base Current	1.0	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	25	W
T_J	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	5.0	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**2SC1024****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}; I_B=0$	50		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.6\text{A}$		1.2	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=3\text{A}; V_{CE}=4\text{V}$		1.8	V
I_{CES}	Collector Cutoff Current	$V_{CE}=50\text{V}; V_{BE}=0$		0.2	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=30\text{V}; I_B=0$		0.3	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$		1.0	mA
h_{FE-1}	DC Current Gain	$I_C=1\text{A}; V_{CE}=4\text{V}$	25		
h_{FE-2}	DC Current Gain	$I_C=3\text{A}; V_{CE}=4\text{V}$	10		
f_T	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}, f_{test}=1.0\text{MHz}$	3.0		MHz