

isc Silicon NPN Power Transistor

2N6103

DESCRIPTION

- DC Current Gain -
: $h_{FE} = 15-60 @ I_C = 8A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 40V(\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

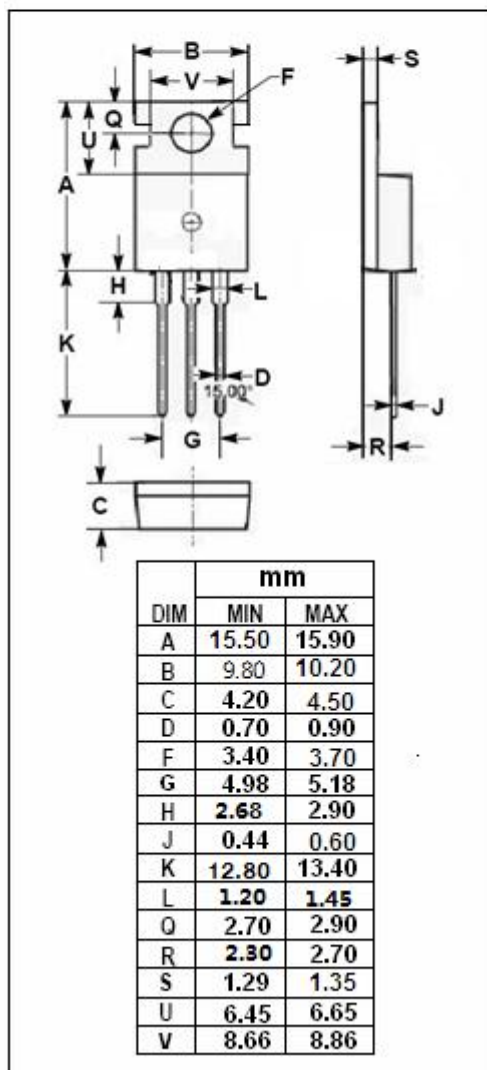
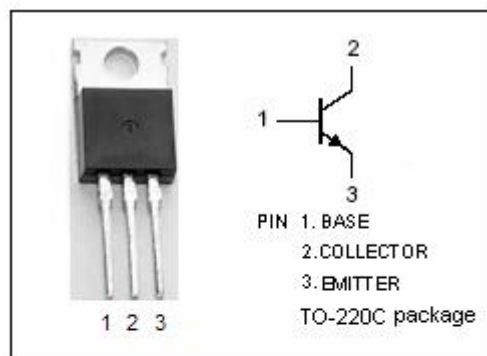
- Designed for use in medium power liner amplifier and switching service in consumer ,automotive and industrial applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	45	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	16	A
I_B	Base Current-Continuous	4	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	75	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	1.67	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	70	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**2N6103****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA; I _B = 0	40		V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 16A; I _B = 3.2A		2.5	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 8A ; V _{CE} = 4V		1.7	V
I _{CEX}	Collector Cutoff Current	V _{CE} = 40V; V _{BE} = -1.5V V _{CE} = 40V; V _{BE} = -1.5V; T _C =150°C		2.0 10	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 30V; I _B = 0		2.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 8V; I _C = 0		1.0	mA
h _{FE-1}	DC Current Gain	I _C = 8A ; V _{CE} = 4V	15	60	
h _{FE-2}	DC Current Gain	I _C = 16A ; V _{CE} = 4V	5		
f _T	Current-Gain—Bandwidth Product	I _C = 1A ; V _{CE} = 4V, f _{test} = 0.1MHz	0.8		MHz

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