

isc Silicon NPN Power Transistor

2SD114

DESCRIPTION

- High DC Current Gain-
: $h_{FE} = 25-100 @ I_C = 7.5A$
- Excellent Safe Operating Area
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

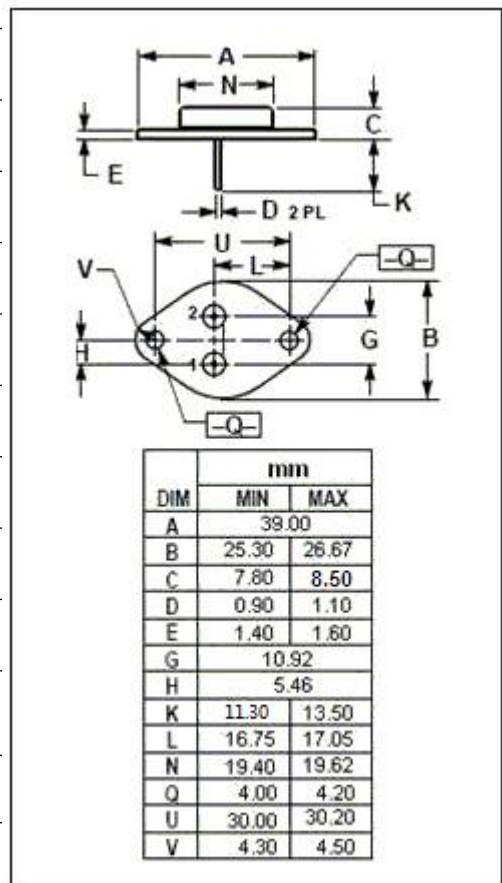
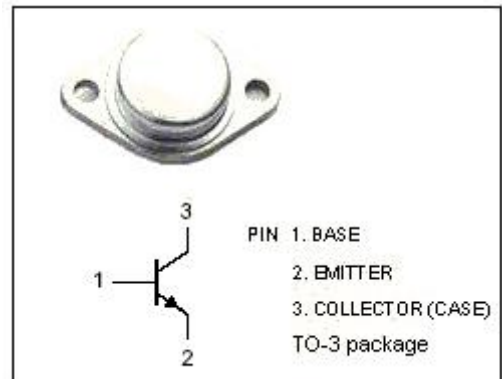
- Designed for use as an output device in complementary audio amplifiers to 100-Watts music power per channel.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current-Continuous	30	A
I_B	Base Current-Continuous	7.5	A
P_C	Collector Power Dissipation@ $T_C=25^{\circ}C$	200	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-65~200	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.875	$^{\circ}C/W$



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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C =50mA; I _B =0	100			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C =7.5A; I _B =0.75A			0.8	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C =7.5A; I _B =0.75A			1.3	V
V _{BE(on)}	Base-Emitter On Voltage	I _C =7.5A ; V _{CE} =2V			1.3	V
I _{CBO}	Collector Cutoff Current	V _{CB} =100V; I _E =0			1.0	mA
I _{EBO}	Emitter Cutoff current	V _{EB} =4V; I _C =0			1.0	mA
h _{FE}	DC Current Gain	I _C =7.5A ; V _{CE} =2V	25		100	
f _T	Current-Gain—Bandwidth Product	I _C =1A; V _{CE} =10V; f=1.0MHz	1.5			MHz

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