

isc Silicon NPN Power Transistor
BD301
DESCRIPTION

- DC Current Gain -
: $h_{FE} = 30(\text{Min.}) @ I_C = 3A$
- Collector-Emmitter Breakdown Voltage-
: $V_{(BR)CEO} = 45V(\text{Min.})$
- Complement to Type BD302
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

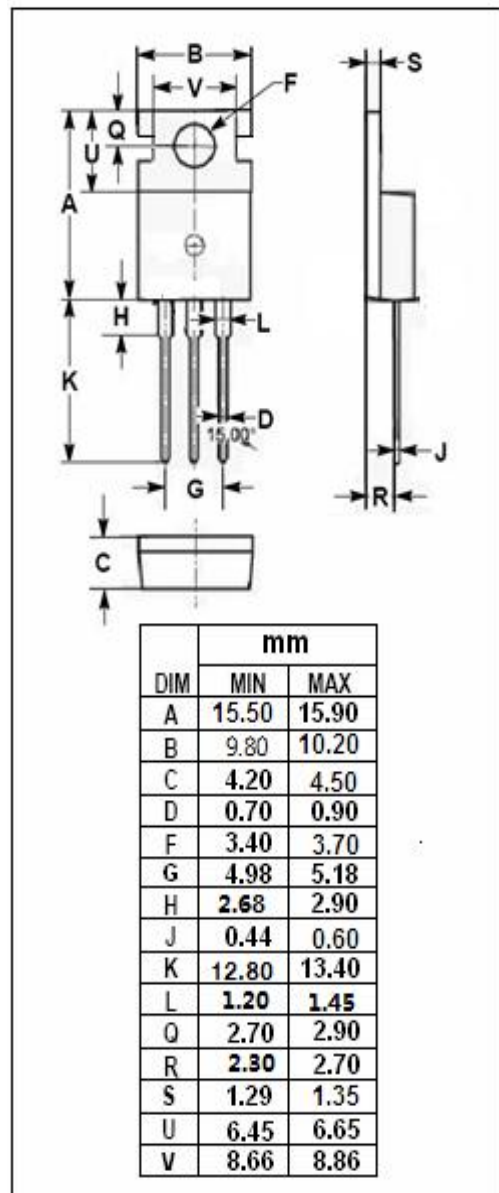
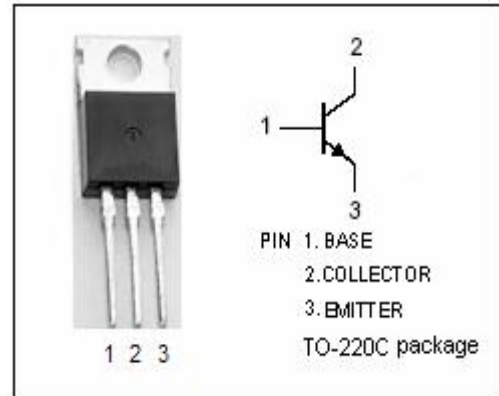
- Designed for audio output stages up to 25W, vertical deflection circuits in color TV receivers.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emmitter Voltage	45	V
V_{EBO}	Emmitter-Base Voltage	5	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	12	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	55	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	2.3	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=30\text{mA}; I_B=0$	45		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.3\text{A}$		1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.3\text{A}$		1.5	V
I_{CEO}	Collector Cutoff Current	$V_{CE}=30\text{V}; I_B=0$		1.0	mA
I_{CBO}	Collector Cutoff Current	$V_{CB}=40\text{V}; I_E=0; T_C=150^\circ\text{C}$		1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$		5.0	mA
h_{FE}	DC Current Gain	$I_C=3\text{A}; V_{CE}=2\text{V}$	30		
f_T	Current-Gain—Bandwidth Product	$I_C=0.3\text{A}; V_{CE}=3\text{V}$	3		MHz

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