

Silicon NPN Power Transistor

BU109

DESCRIPTION

- Excellent Safe Operating Area
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.0 \text{ V(Max)} @ I_C = 5 \text{ A}$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(sus)} = 150 \text{ V(Min)}$

APPLICATIONS

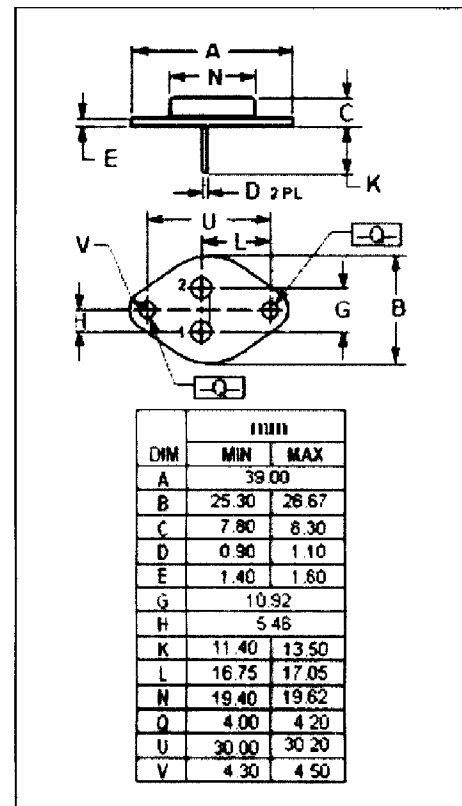
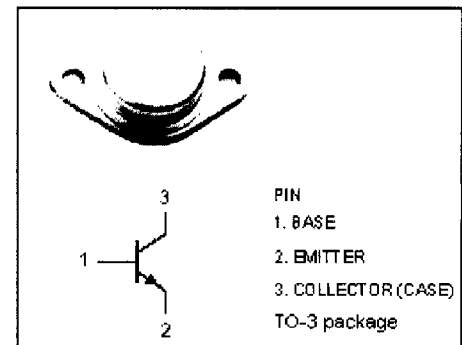
- Designed for horizontal deflection output stage of TVs and CRTs applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	330	V
V_{CEV}	Collector-Emitter Voltage- $V_{BE} = -1.5 \text{ V}$	330	V
V_{CEO}	Collector-Emitter Voltage	150	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	7	A
I_{CM}	Collector Current-Peak(Repetitive)	10	A
I_{CM}	Collector Current-Peak($t = 10 \text{ ms}$)	15	A
I_B	Base Current	4	A
P_C	Collector Power Dissipation@ $T_C = 25^\circ\text{C}$	60	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	2.08	$^\circ\text{C/W}$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	70	$^\circ\text{C/W}$



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Silicon NPN Power Transistor**BU109****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; I_B=0$	150		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.5\text{A}$		1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.5\text{A}$		1.2	V
I_{CES}	Collector Cutoff Current	$V_{CE}=330\text{V}; V_{BE}=0$ $V_{CE}=200\text{V}; V_{BE}=0$ $V_{CE}=200\text{V}; V_{BE}=0, T_C=150^{\circ}\text{C}$		5.0 0.1 1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$		1.0	mA
f_T	Current Gain-Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}$	10		MHz
t_{off}	Turn-Off Time	$I_C=5\text{A}; I_B=0.5\text{A}$		0.75	μs