

Silicon NPN Power Transistor

BU406

DESCRIPTION

- High Voltage: $V_{CEV} = 400V(\text{Min})$
- Fast Switching Speed-
: $t_f = 750ns(\text{Max})$
- Low Saturation Voltage-
: $V_{CE(\text{sat})} = 1.0V(\text{Max}) @ I_C = 5A$

APPLICATIONS

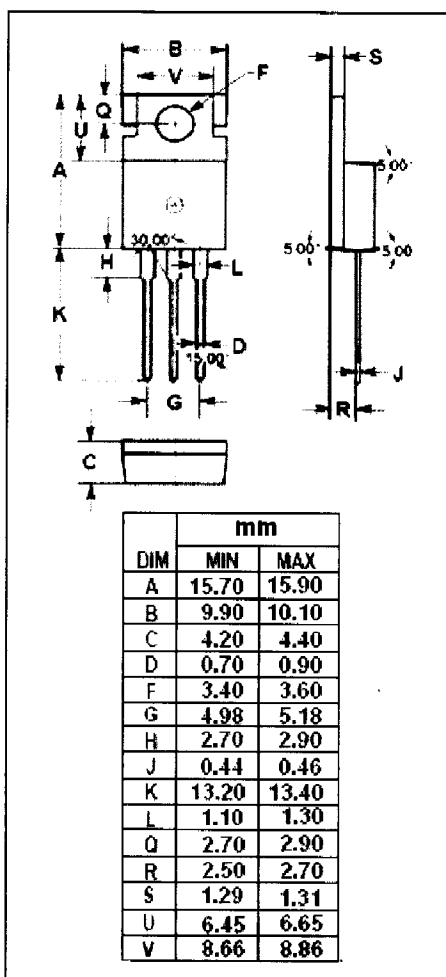
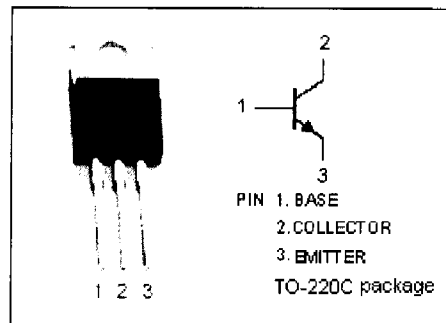
- Designed for use in horizontal deflection output stages of TV's and CRT's

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

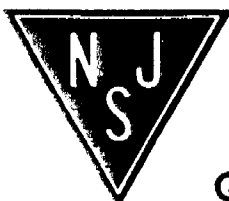
SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	400	V
V_{CEV}	Collector-Emitter Voltage	400	V
V_{CEO}	Collector-Emitter Voltage	200	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	7	A
I_{CP}	Collector Current-Peak Repetitive	10	A
I_{CP}	Collector Current- Peak (10ms)	15	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 Range	-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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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 100\text{mA}; I_B = 0$	200			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	$V_{CE} = 400\text{V}; V_{BE} = 0$ $V_{CE} = 250\text{V}; V_{BE} = 0$ $V_{CE} = 250\text{V}; V_{BE} = 0; T_C = 150^\circ\text{C}$			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	$I_C = 0.5\text{A}; V_{CE} = 10\text{V}; f_{test} = 20\text{MHz}$	10			MHz
C_{OB}	Output Capacitance	$I_E = 0; V_{CB} = 10\text{V}; f_{test} = 1.0\text{MHz}$		80		pF
t_f	Fall Time	$I_C = 5\text{A}; I_{B1} = -I_{B2} = 0.5\text{A}; L = 150\ \mu\text{H}$ $V_{CC} = 40\text{V}$			0.75	μs