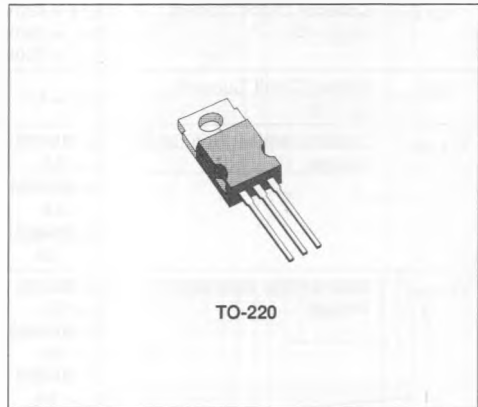


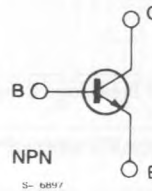
HORIZONTAL TV DEFLECTORS

DESCRIPTION

The BU406, BU406H, and BU408 are silicon epitaxial planar NPN transistors in Jedec TO-220 plastic package. They are fast switching, high voltage devices for use in horizontal deflection output stages of large screen MTV receivers with 110" CRT.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)	400	V
V_{CEV}	Collector-emitter Voltage ($V_{BE} = -1.5V$)	400	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	200	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	6	V
I_C	Collector Current	7	A
I_{CM}	Collector Peak Current (repetitive)	10	A
I_{CM}	Collector Peak Current ($t_p = 10ms$)	15	A
I_B	Base Current	4	A
P_{TOT}	Total Power Dissipation at $T_{case} \leq 25^\circ C$	60	W
T_{sig}	Storage Temperature	- 65 to 150	$^\circ C$
T_j	Junction Temperature	150	$^\circ C$

THERMAL DATA

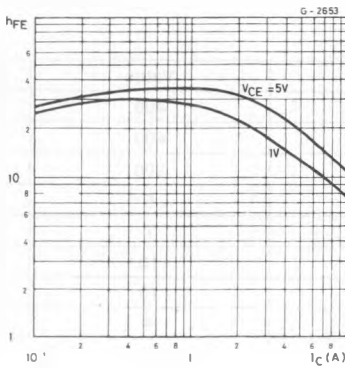
$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	2.08	$^{\circ}C/W$
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	70	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS($T_{case} = 25^{\circ}C$ unless otherwise specified)

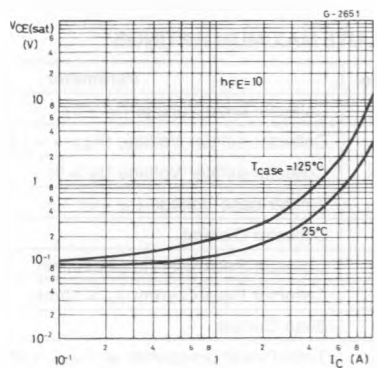
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cutoff Current ($V_{BE} = 0$)	$V_{CE} = 400V$ $V_{CE} = 250V$ $V_{CE} = 250V$ $T_{case} = 150^{\circ}C$			5 100 1	mA μA mA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = 6V$			1	mA
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	for BU406 $I_C = 5A$ for BU406H $I_C = 5A$ for BU408 $I_C = 6A$ $I_B = 0.5A$ $I_B = 0.8A$ $I_B = 1.2A$			1 1 1	V V V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	for BU406 $I_C = 5A$ for BU406H $I_C = 5A$ for BU408 $I_C = 6A$ $I_B = 0.5A$ $I_B = 0.8A$ $I_B = 1.2A$			1.2 1.2 1.5	V V V
f_T	Transition Frequency	$I_C = 0.5A$ $V_{CE} = 10V$	10			MHz
t_{off}^{**}	Turn-off Time	for BU406 $I_C = 5A$ for BU406H $I_C = 5A$ for BU408 $I_C = 6A$ $I_{Bend} = 0.5A$ $I_{Bend} = 0.8A$ $I_{Bend} = 1.2A$			0.75 0.4 0.4	μs μs μs
$I_{\epsilon/b}$	Second Breakdown Collector Current	$V_{CE} = 40V$ $t = 10ms$		4		A

* Pulsed : pulse duration = 300 μs , duty cycle = 1.5%.
** See test circuit.

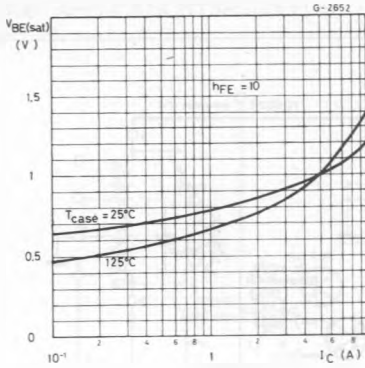
DC Current Gain.



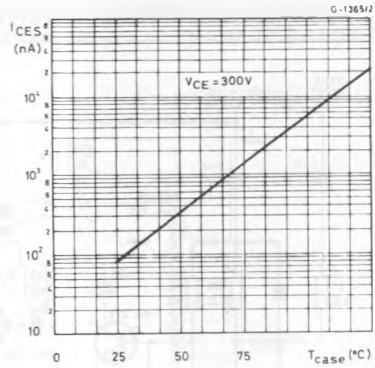
Collector-emitter Saturation Voltage.



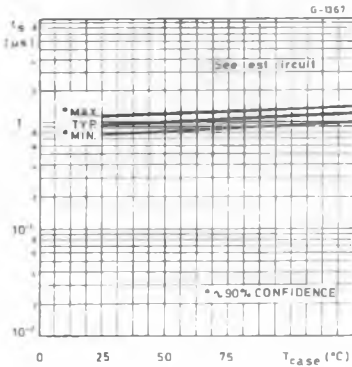
Base-emitter Saturation Voltage.



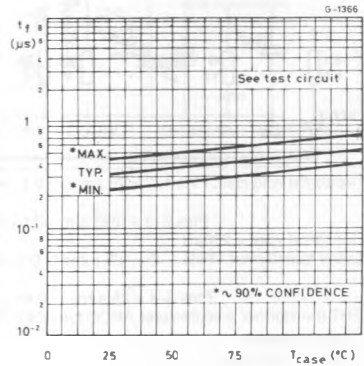
Collector cutoff Current.



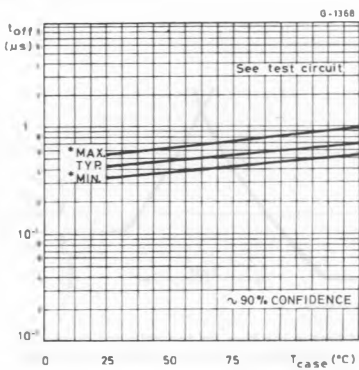
Storage Time.



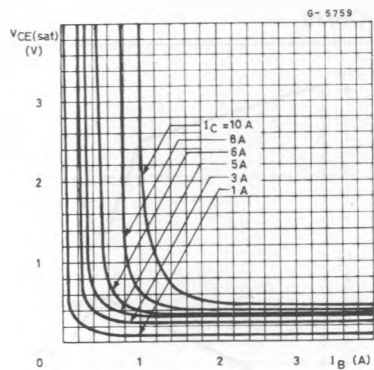
Fall Time.



Turn-off Time.

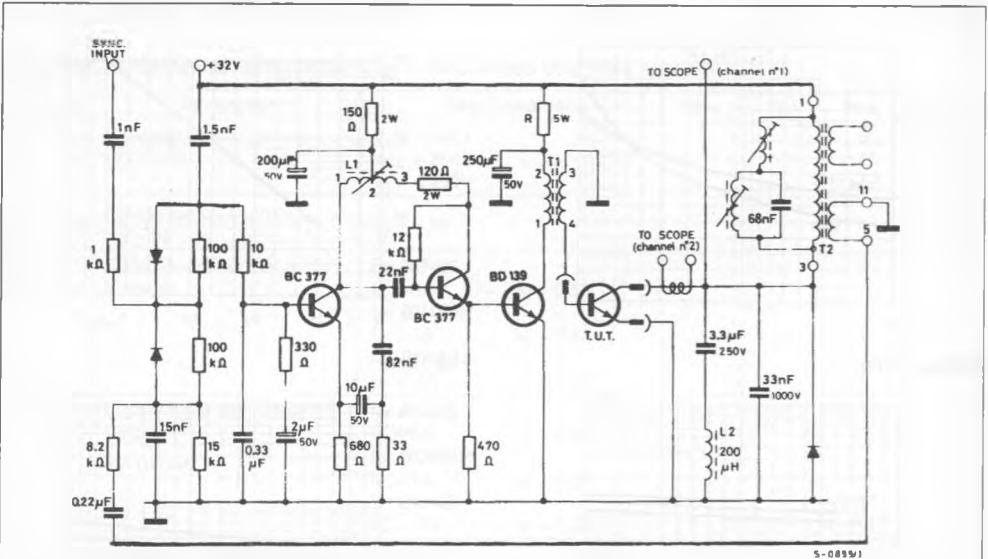


Collector-emitter Saturation Voltage.



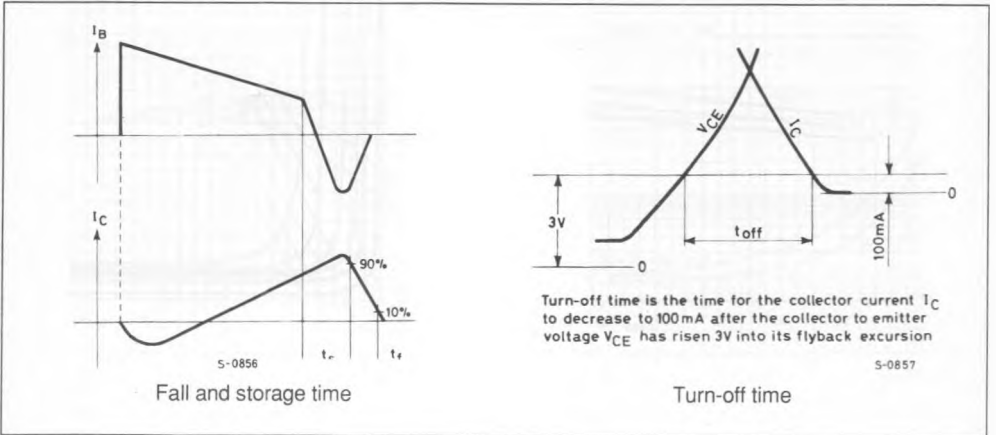
SWITCHING TIMES

TEST CIRCUIT (FALL, STORAGE AND TURN-OFF TIME)



- L1 Horizontal hold coil : Pins 1-2 = 75 turns \varnothing 0.2mm ; R = 1.5 Ω ; L min = 0.62mH
- Core = siferit B 62120 25x4x2
- Pins 2-3 = 293 turns \varnothing 0.2mm ; R = 4.8 Ω ; L max = 4.1H
- L2 Horizontal yoke = 200 μ H
- T1 Driver transformer : Pins 1-2 = 125 turns \varnothing 0.2mm ;
- Gap = 0.12mm ; Core = 3E3 double E 19x15x5
- Pins 3-4 = 25 turns \varnothing 0.4mm ;
- T2 EHT transformer manufacturer ARCO type 249 065/035
- R = 330 Ω for BU406
- R = 220 Ω for BU406H
- R = 180 Ω for BU408

WAVEFORMS



APPLICATION INFORMATION

BU406 - APPLICATION CIRCUIT FOR 17" TO 24" - 110° - 28 MM NECK PICTURE TUBES

