

HORIZONTAL DEFLECTION TRANSISTOR

NPN BU406/D, 7A 60W

Technical Data

... for Horizontal deflection output stages of TV's and CRT's.

- ☞ Collector-Emitter Voltage- $V_{CEV}=400V_{dc}$
- ☞ Low Saturation Voltage: $V_{CE}(sat)=1V(max)@5A$
- ☞ TO-220 Package
- ☞ Fast Switching Speed: $t_f=750\text{ ns}(max)$

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector- Emitter Voltage	V_{CEO}	200	Vdc
Collector- Emitter Voltage	V_{CBO}	400	Vdc
Collector- Emitter Voltage	V_{CEV}	400	Vdc
Emitter Base Voltage	V_{EB}	6	Vdc
Collector Current – Continuous	I_C	7	Adc
Peak(1)	I_{CM}	10	
Base Current – continuous	I_B	4	Adc
<u>Total Power Dissipation @</u> <u>$TC = 25^{\circ}C$</u> Derate above $25^{\circ}C$	PD	60 0.48	Watts $W/^{\circ}C$
Operating and Storage junction Temperature Range	T_j, T_{stg}	-65 to +150	$^{\circ}C$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Thermal resistance junction to case	R_{thjc}	2.08	$^{\circ}C/W$



ELECTRICAL CHARACTERISTICS : [$T_c = 25^\circ\text{C}$ unless otherwise noted]

Characteristic	Symbol	Min	Typ	Max	Unit
* OFF CHARACTERISTICS :					
Collector–Emitter Sustaining Voltage (1) [$I_c = 100\text{ mAdc}$, $I_B = 0$]	$V_{CEO(sus)}$	200			Vdc
Collector Cutoff Current [$V_{CE} = 400\text{ Vdc}$, $V_{BE} = 0$]	I_{CES}			5	mAdc
Emitter Cutoff Current [$V_{EB} = 6\text{V}$, $I_c = 0$]	I_{EBO}			1 400	mAdc
* ON CHARACTERISTICS (1):					
DC Current Gain [$I_c = 5\text{ Adc}$, $V_{CE} = 5.0\text{ Vdc}$]	h_{FE}		28		
Collector-Emitter Saturation Voltage [$I_c = 5\text{ Adc}$, $I_B = 0.5\text{Adc}$]	$V_{CE(sat)}$			1	Vdc
Base-Emitter Saturation Voltage [$I_c = 5\text{ Adc}$, $I_B = 0.5\text{Adc}$]	$V_{BE(sat)}$			1.2	Vdc
Forward Diode Voltage ($I_{EC}=5\text{A}$) BU406D ONLY	V_{EC}			2	Vdc
DYNAMIC CHARACTERISTICS:					
Current Gain – Bandwidth Product [$I_c = 0.5\text{Adc}$, $V_{CE}=10\text{ Vdc}$, $f_{test}=20\text{ MHz}$]	f_T	10		--	MHz
Output Capacitance ($V_{CB}=10\text{Vdc}$, $I_E=0$, $f=1\text{MHz}$)	C_{OB}	--	80	--	pF
SWITCHING CHARACTERISTICS					
Inductive Load Crossover Time [$v_{cc}=40\text{Vdc}$, $I_C=5\text{Adc}$, $I_{B1}=I_{B2}=0.5\text{Adc}$, $L=150\text{mH}$]	t_c	---		0.75	⬠s

(1) Pulse Test : Pulse Width = 300⬠s , Duty Cycle < 2.0%