Silicon Power Transistor
BU204

Technical Data

Typical Applications : These devices are designed for horizontal deflection output stages of large screen colour deflection circuits.

Specification Fetaures :

- ***Horizontal Deflection*** NPN Silicon Power Transistor
- 2.5 Amp / 1300 V device in TO-204AA [TO-3] package
- 36 Watts device
- VCEO (sus) 600 V
- Collector Emitter Voltage VCEX = 1300 V

Symbol	Parameters / Conditions	Ratings
Maximum Ratings :		
$V_{CEO(SUS)}$	Collector- Emitter Voltage	600 Vdc
V_{CEX}	Collector- Emitter Voltage	1300 Vdc
V_{EB}	Emitter Base Voltage	5 Vdc
I_C I_{CM}	Collector Current – Continuos Peak : Pulse width = 5 ms , Duty Cycle 10 %	2.5 Adc 3 Adc
I_{BM}	Base Current – Peak : Pulse width = 5 ms , Duty Cycle 10 %	2.5 Adc

Thermal Characteristics :		
R_{thjc}	Thermal resistance junction to case	2.5 °C/W
P_D	Total Power Dissipation @ Tc = 25 °C @ Tc = 90 °C Derate above 95 °C	36 Watts 10 Watts 0.4 W /°C
Tj & T_{Stg}	Operating and Storage Junction Temperature Range	-65 °C ….+ 115 °C

ELECTRICAL CHARACTERISTICS :

[Tc = 25 °C unless otherwise noted]

Characteristic	Symbol	Min	Typ	Max	Unit
Off Characteristics : [Pulse Test : Pulse width = 300 μs , Duty Cycle 2 %]					
Collector – Emitter Sustaining Voltage [Ic = 100 mAdc , I_B = 0]	$V_{CEO(sus)}$	600			Vdc
Collector Cutoff Current [V_{CE} = 1300 Vdc , V_{BE} = 0]	I_{CES}			1	mAdc
Emitter Base Voltage [I_E = 10 mA , Ic = 0]	V_{EBO}	5			Vdc
On Characteristics : [Pulse Test : Pulse width = 300 μs , Duty Cycle 2 %]					
Collector-Emitter Saturation Voltage [Ic = 2 Adc , I_B = 1 Adc]	$V_{CE(sat)}$			5	Vdc
Base-Emitter Saturation Voltage [Ic = 2 Adc , I_B = 1 Adc]	$V_{BE(sat)}$			1.5	Vdc
Dynamic Characteristics :					
Current Gain – Bandwidth Product [Ic = 0.1 Adc , V_{CE}=5 Vdc , f=1 MHz]	f_T		4		MHz
Output Capacitance [V_{CB}= 10 Vdc , I_E = 0 , f = 1 MHz]	C_{ob}		50		pF

Switching Characteristics :		
Fall Time :		Typ
T_f	(Ic= 2 Adc , I_{B1} = 1 Adc , LB=25 µH)	0.65 µs