

Silicon Power Transistor BU208

Technical Data

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

Specification Features :

- ☞ **High Voltage** NPN Silicon Power Transistor
- ☞ 5 Amp / 1300 V device in TO-204AA [TO-3] package
- ☞ 12.5 Watts device
- ☞ VCEO (sus) 600 V
- ☞ Collector Emitter Voltage VCE = 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	Collector Current – Continuous	5 Adc
I_{CM}	Peak : Pulse width = 5 ms , Duty Cycle 10 %	7.5 Adc
I_{BM}	Base Current – Peak : Pulse width = 5 ms , Duty Cycle 10 %	4 Adc



Thermal Characteristics :		
R_{thjc}	Thermal resistance junction to case	1.6 °C/W
T_L	Maximum Lead Temperature for Soldering Purpose : 1/8" from Case for 5 sec	275 °C
P_D	Total Power Dissipation @ $T_c = 95$ °C Derate above 95 °C	12.5 Watta 0.625 W/°C
T_j & T_{stg}	Operating and Storage Junction Temperature Range	-65 °C+ 115 °C

ELECTRICAL CHARACTERISTICS :

[$T_c = 25$ °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 [$I_c = 100$ mAdc , $I_B = 0$]	$V_{CE(sus)}$	600			Vdc
Collector Cutoff Current [$V_{CE} = 1300$ Vdc , $V_{BE} = 0$]	I_{CES}			1	mAdc
Emitter Base Voltage [$I_E = 10$ mA , $I_c = 0$]	V_{EBO}	5			Vdc
On Characteristics : [Pulse Test : Pulse width = 300 μs , Duty Cycle 2 %]					
DC Current Gain [$I_c = 4.5$ Adc , $V_{CE} = 5$ Vdc]	h_{FE}	2.25			
Collector-Emitter Saturation Voltage [$I_c = 4.5$ Adc , $I_B = 2$ Adc]	$V_{CE(sat)}$			5	Vdc
Base-Emitter Saturation Voltage [$I_c = 4.5$ Adc , $I_B = 2$ Adc]	$V_{BE(sat)}$			1.5	Vdc
Dynamic Characteristics :					
Current Gain – Bandwidth Product [$I_c = 0.1$ Adc , $V_{CE}=5$ Vdc , $f=1$ MHz]	f_T		4		MHz
Output Capacitance [$V_{CB}= 10$ Vdc , $I_E = 0$, $f = 0.1$ MHz]	C_{ob}		125		pF

Switching Characteristics :

Fall Time :		Typ
T_f	($I_c = 4.5 \text{ Adc}$, $I_B = 1.8 \text{ Adc}$, $LB = 10 \mu\text{H}$)	$6 \mu\text{s}$