

Silicon NPN Power Transistor



Feature:

- High voltage, high speed

Application:

For use in horizontal deflection output stages for colour TV receives

Fig. 1 Simplified Outline (TO-3) and Symbol



Pinning (see fig. 2)

Pin	Description
1	Base
2	Emitter
3	Collector

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Symbol	Parameter	Conditions	Value	Unit
V_{CBO}	Collector - base voltage	Open emitter	1,500	V
V_{CEO}	Collector - emitter voltage	Open base	700	V
V_{EBO}	Emitter - base voltage	Open collector	5	V
I_C	Collector current	-	5	A
I_{CM}	Collector current - peak	-	7.5	A
I_B	Base current	-	0.1	A
I_{BM}	Base current - peak	-	2.5	A
P_T	Total power dissipation	$T_C = 25^\circ\text{C}$	150	W
T_j	Junction temperature	-	115	$^\circ\text{C}$
T_{stg}	Storage temperature	-	-65 to 150	$^\circ\text{C}$

Thermal Characteristics

Symbol	Parameter	Maximum	Unit
$R_{th\ j-c}$	Thermal resistance junction to case	1	$^\circ\text{C}/\text{W}$

Characteristics ($T_j = 25^\circ\text{C}$ Unless Otherwise Specified)

Symbol	Parameter	Conditions	Minimum	Typical	Maximum	Unit
$V_{CEO\ (SUS)}$	Collector - emitter sustaining voltage	$I_C = 0.1\ \text{A}; I_B = 0; L = 25\ \text{mH}$	700	-	-	V
$V_{(BR)\ EBO}$	Emitter - base breakdown voltage	$I_E = 10\ \text{mA}; I_C = 0$	5	-	-	V
V_{CEsat}	Collector - emitter saturation voltage	$I_C = 4.5\ \text{A}; I_B = 2\ \text{A}$	-	-	1	V

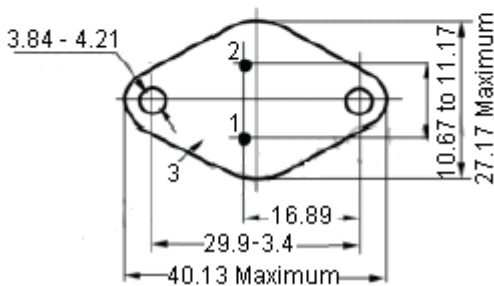
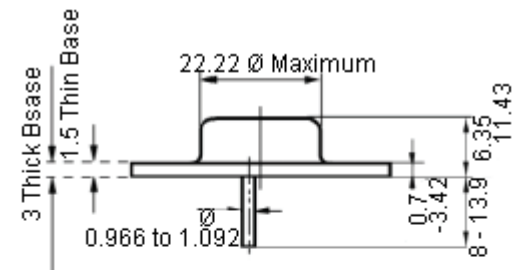
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Characteristics ($T_j = 25^\circ\text{C}$ Unless Otherwise Specified)

Symbol	Parameter	Conditions	Minimum	Typical	Maximum	Unit
V_{BEsat}	Base - emitter saturation voltage	$I_C = 4.5\text{ A}; I_B = 2\text{ A}$	-	-	1.5	V
I_{CES}	Collector cut-off current	$V_{CE} = 1,500\text{ V}; V_{BE} = 0$	-	-	1	mA
I_{EBO}	Emitter cut-off current	$V_{EB} = 5\text{ V}; I_C = 0$	-	-	0.1	mA
h_{FE-1}	DC current gain	$I_C = 1\text{ A}; V_{CE} = 5\text{ V}$	8	-	-	-
h_{FE-2}	DC current gain	$I_C = 4.5\text{ A}; V_{CE} = 5\text{ V}$	2.25	-	-	-
C_{OB}	Output capacitance	$I_E = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$	-	125	-	pF
f_T	Transition frequency	$I_C = 0.1\text{ A}; V_{CE} = 15\text{ V}$	-	7	-	MHz
t_s	Storage time	$I_C = 4.5\text{ A}; I_B = 1.8\text{ A}$	-	-	10	μs
t_f	Fall time	$L_B = 10\text{ }\mu\text{H}$	-	-	0.7	μs

Package Outline



Dimensions : Millimetres

Fig. 2 Outline Dimensions

Part Number Table

Description	Part Number
Silicon NPN Power Transistor	BU208A

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