

NPN Silicon Power Transistor

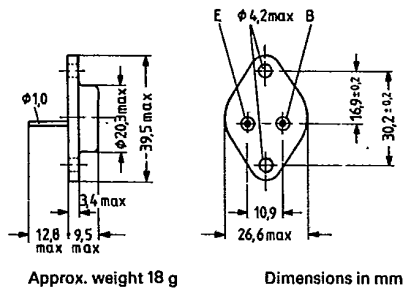
BU 205

SIEMENS AKTIENGESELLSCHAFT 04838 D

BU 205 is a triple diffused silicon NPN power switching transistor in a TO 3 case (3 B 2 DIN 41872). It is outstanding for short switching times and high dielectric strength. It is intended for use in horizontal deflection output stages for color TV receivers.

The collector is electrically connected to the case.

Type	Ordering code
BU 205	Q68000-A751



Approx. weight 18 g

Dimensions in mm

Maximum ratings

Collector-emitter voltage
 Collector-emitter voltage ($R_{BE} < 100 \Omega$)
 Collector-emitter voltage
 Collector current
 Collector peak current
 Base peak current
 Negative base current
 Negative base peak current
 Junction temperature
 Storage temperature range
 Total power dissipation ($T_{case} \leq 90^\circ\text{C}$)

V_{CES}	1500	V ¹⁾
V_{CER}	1500	V
V_{CEO}	700	V
I_C	2.5	A
I_{CM}	3	A ²⁾
I_{BM}	2.5	A
$-I_B$	0.1	A
$-I_{BM}$	1.5	A
T_J	115	$^\circ\text{C}$
T_{stg}	-65 to +115	$^\circ\text{C}$
P_{tot}	10	W

Thermal resistance

Junction to case	R_{thJC}	≤ 2.5	K/W
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1) Max. 1650 V are permitted in case of picture tube spark-overs.

2) Max. 5 A are permitted in case of picture tube spark-overs.

Static characteristics

Collector cutoff current

 $(V_{CE} = 1500 \text{ V}; V_{BE} = 0)$

I_{CES}	≤ 1	mA
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Emitter-base breakdown voltage

 $(I_E = 10 \text{ mA}; I_C = 0)$

$V_{(BR)EBO}$	≥ 5	V
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 $(I_E = 100 \text{ mA}; I_C = 0)$

$V_{(BR)EBO}$	≥ 7	V
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Collector-emitter breakdown voltage

 $(I_C = 100 \text{ mA}; I_B = 0; L = 25 \text{ mH})$

$V_{(BR)CEO}$	≥ 700	V
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Collector-emitter saturation voltage

 $(I_C = 2 \text{ A}; I_B = 1 \text{ A})$

V_{CEsat}	≤ 5	V
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Base-emitter saturation voltage

 $(I_C = 2 \text{ A}; I_B = 1 \text{ A})$

V_{BEsat}	≤ 1.5	V
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DC current gain

 $(V_{CE} = 5 \text{ V}; I_C = 2 \text{ A})$

h_{FE}	> 2	—
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Dynamic characteristics

Transition frequency

 $(V_{CE} = 5 \text{ V}; I_C = 0.1 \text{ A}; f = 5 \text{ MHz})$

f_T	7.5	MHz
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Collector-base capacitance

 $(V_{CB} = 10 \text{ V}; I_E = 0 \text{ A}; f = 1 \text{ MHz})$

C_{CBO}	65	pF
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Switching time:

 $(I_C = 2 \text{ A}; I_B = 1 \text{ A})$

t_f	0.75	μs
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