

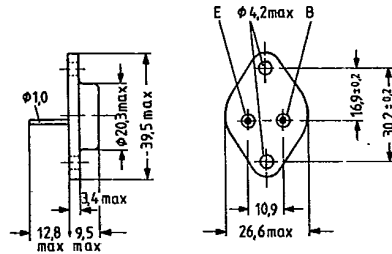
NPN Silicon Power Transistors

BU 208
BU 208 A

SIEMENS AKTIENGESELLSCHAFT 840 D T-33-07

BU 208 and BU 208 A are triple diffused silicon NPN power switching transistors in TO 3 case (3 B 2 DIN 41872). They are outstanding for short switching times and high dielectric strength and are intended for use in horizontal deflection output stages for color TV receivers. The collector is electrically connected to the case.

Type	Ordering code
BU 208	Q68000-A494
BU 208 A	Q68000-A5163



Approx. weight 18 g

Dimensions in mm

Maximum ratings

Collector-emitter voltage

 $(V_{BE} = 0)$

Collector-emitter voltage

Collector current

Collector peak current

Base peak current

Negative base current

Negative base peak current at turning off

Junction temperature

Storage temperature range

Total power dissipation ($T_{case} \leq 95^\circ\text{C}$)

	BU 208	BU 208 A	
V_{CESM}	1500	1500	V ¹⁾
V_{CEO}	700	700	V
I_C	5	5	A ²⁾
I_{CM}	7.5	7.5	A
I_{BM}	4	4	A
$-I_B$	0.1	0.1	A
$-I_{BM}$	2.5	2.5	A
T_j	115	115	$^\circ\text{C}$
T_{stg}	-65 to +115		$^\circ\text{C}$
P_{tot}	12.5	12.5	W

Thermal resistance

Junction to case

R_{thJC}	≤ 1.6	≤ 1.6	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.

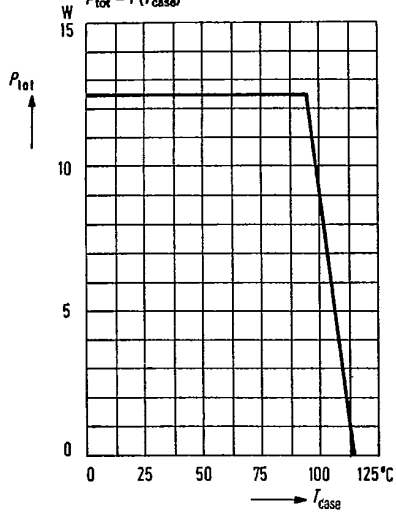
Static characteristics

	BU 208	BU 208 A	
Collector cutoff current ($V_{CE} = 1500 \text{ V}$; $V_{BE} = 0$)	$I_{CES} \leq 1$	≤ 1	mA
Emitter-base breakdown voltage ($I_E = 10 \text{ mA}$; $I_C = 0$)	$V_{(BR)EBO} \geq 5$	≥ 5	V
($I_E = 100 \text{ mA}$; $I_C = 0$)	$V_{(BR)EBO} \geq 7$	≥ 7	V
Collector-emitter breakdown voltage ($I_C = 100 \text{ mA}$, $I_B = 0$, $L = 25 \text{ mH}$)	$V_{(BR)CEO} \geq 700$	≥ 700	V
Collector-emitter saturation voltage ($I_C = 4.5 \text{ A}$, $I_B = 2 \text{ A}$)	$V_{CEsat} \leq 5$	≤ 1	V
Base-emitter saturation voltage ($I_C = 4.5 \text{ A}$; $I_B = 2 \text{ A}$)	$V_{BEsat} \leq 1.5$	≤ 1.5	V
DC current gain ($V_{CE} = 5 \text{ V}$, $I_C = 4.5 \text{ A}$)	$h_{FE} \geq 2.25$	≥ 2.25	—

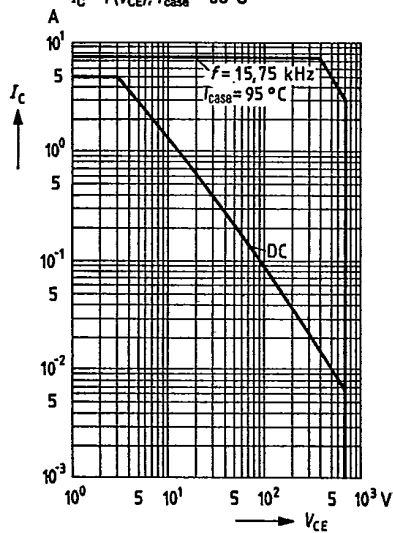
Dynamic characteristics

Transition frequency ($V_{CE} = 5 \text{ V}$; $I_C = 0.1 \text{ A}$)	f_T	1	—	MHz
($V_{CE} = 5 \text{ V}$; $I_C = 0.1 \text{ A}$; $f = 5 \text{ MHz}$)	f_T	—	7	MHz
Collector-base capacitance ($V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$)	C_{CBO}	150	125	pF
Switching times: ($I_C = 4.5 \text{ A}$, $I_B = 1.8 \text{ A}$, $L_B = 10 \mu\text{H}$)	t_f	0.7	0.7	μs
($I_C = 4.5 \text{ A}$, $I_B = 1.8 \text{ A}$, $L_B = 10 \mu\text{H}$)	t_s	10	10	μs

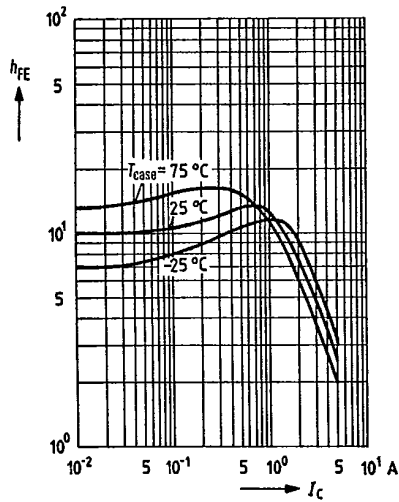
Total perm. power dissipation
versus temperature
 $P_{tot} = f(T_{case})$



Permissible operating range
 $I_C = f(V_{CE})$; $T_{case} = 95^\circ\text{C}$



DC current gain $h_{FE} = f(I_C)$
 $T_{case} = \text{parameter}$



Output characteristics $I_C = f(V_{CE})$
 $I_B = \text{parameter}$

