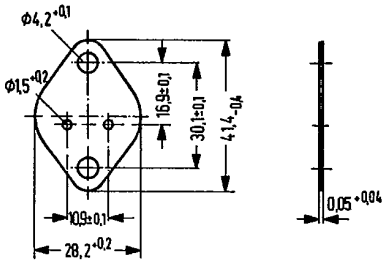
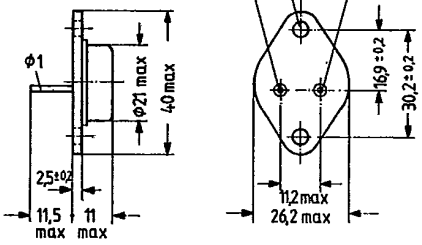
NPN Silicon Power Transistors

BUW 70
BUW 71
BUW 72

BUW 71, BUW 72, and BUW 73 are triple diffused silicon NPN power switching transistors in TO 3 case (3 A 2 DIN 41872). They are outstanding for short switching times and high dielectric strength and are particularly suitable for use in clocked voltage converters. The collector is electrically connected to the case.

Type	Ordering code
BUW 70	Q62702-U295
BUW 71	Q62702-U296
BUW 72	Q62702-U297
Mica washer	Q62901-B11-A
Insulating nipple	Q62901-B50





Approx. weight 18 g
Mica washer

Additional thermal resistance
dry: R_{th} = 1.25 K/W
greased: R_{th} = 0.35 K/W

Dimensions in mm

Maximum ratings		BUW 70	BUW 71	BUW 72	
Collector-base voltage	V_{CBO}	150	450	450	V
Collector-emitter voltage	V_{CEO}	100	400	400	V
Emitter base voltage	V_{EBO}	7	7	7	V
Collector current	I_C	10	5	10	A
Base current	I_B	3	1.5	3	A
Junction temperature	T_j	150	150	150	°C
Storage temperature range	T_{stg}		−65 to +150		°C
Total power dissipation ($T_{case} \leq 25$ °C)	P_{tot}	80	100	100	W
Thermal resistance					
Junction to case	R_{thJC}	≤ 1.5	≤ 1.25	≤ 1.25	K/W

BUW 70
BUW 71
BUW 72

Static characteristics (T_{case} = 25 °C)		**BUW 70**	**BUW 71**	**BUW 72**	
Collector-emitter breakdown voltage (I_{CEO} = 10 mA)	$V_{(BR)CEO}$	100	400	400	V
Collector cutoff current					
(V_{CBO} = 450 V)	I_{CBO}	–	0.1	0.1	mA
(V_{CBO} = 150 V)	I_{CBO}	0.1	–	–	mA
Emitter cutoff current (V_{BEO} = 7 V)	I_{EBO}	0.1	0.1	0.1	mA
Collector-emitter saturation voltage					
(I_C = 4 A, I_B = 0.8 A)	V_{CEsat}	0.8	–	0.8	V
(I_C = 2 A, I_B = 0.4 A)	V_{CEsat}	–	0.8	–	V
Base-emitter saturation voltage					
(I_C = 4 A, I_B = 0.8 A)	V_{BEsat}	1.5	–	1.5	V
(I_C = 2 A, I_B = 0.4 A)	V_{BEsat}	–	1.5	–	V
DC current gain					
(I_C = 4 A; V_{CE} = 5 V)	h_{FE}	>40	–	>15	–
(I_C = 2 A, V_{CE} = 5 V)	h_{FE}	–	>15	–	–
Dynamic characteristics (T_{case} = 25 °C)					
Switching times:					
(I_C=5A, I_{B1}=−I_{B2}=0.5A, R_L=10Ω)	t_f	1	–	1.2	µs
	t_{on}	1	–	2	µs
	t_s	3	–	4	µs
(I_C=3A, I_{B1}=−I_{B2}=0.3A, R_L=20Ω)	t_f	–	1.3	–	µs
	t_{on}	–	1.5	–	µs
	t_s	–	4	–	µs