PNP Silicon RF Transistors

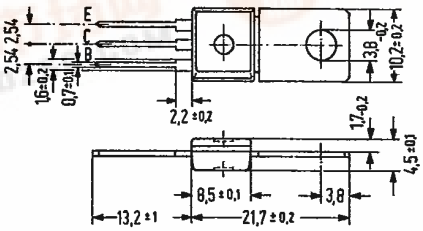
BF 847
BF 848
BF 849

SIEMENS AKTIENGESELLSCHAF 541 D

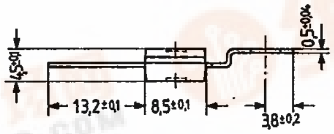
for video and AF output stages

BF 847, BF 848, and BF 849 are epitaxial PNP silicon planar transistors in plastic package similar to TO 202. The collector is conductively connected to the metallic mounting area of the transistor. The transistors are especially designed for use in video output stages of TV receivers, for AF output stages of high operating voltage and as driver transistors in horizontal deflection circuits.

Type	Ordering code
BF 847	Q62702-F662
BF 848	Q62702-F663
BF 849	Q62702-F664



Approx. weight 15 g Dimensions in mm



Available upon request also with bent fixing plate.

Maximum ratings		BF 847	BF 848	BF 849	
Collector-base voltage	$-V_{CBO}$	160	270	300	V
Collector-emitter voltage	$-V_{CEO}$	160	250	300	V
Emitter-base voltage	$-V_{EBO}$	5	5	5	V
Collector current	$-I_C$	100	100	100	mA
Base current	$-I_B$	50	50	50	mA
Collector peak current	$-I_{CM}$	300	300	300	mA
Junction temperature	T_j	150	150	150	°C
Storage temperature range	T_{stg}		−55 to +150		°C
Total power dissipation ($T_{amb} \leq 25$ °C)	P_{tot}	1.8	1.8	1.8	W
($T_{case} \leq 100$ °C)	P_{tot}	2.5	2.5	2.5	W
Thermal resistance					
Junction to ambient air	R_{thJA}	≤70	≤70	≤70	K/W
Junction to case	R_{thJC}	≤20	≤20	≤20	K/W

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BF 847
BF 848
BF 849

Static characteristics (T_{amb} = 25 °C)		**BF 847**	**BF 848**	**BF 849**	
Collector-base breakdown voltage (I_C = 100 µA)	$-V_{(BR)CBO}$	<160	<250	<300	V
Collector-emitter breakdown voltage (I_C = 10 mA)	$-V_{(BR)CEO}$	<160	<250	<300	V
Emitter-base breakdown voltage (I_C = 100 µA)	$-V_{(BR)EBO}$	>5	>5	>5	V
Collector cutoff current					
(V_{CB} = 100 V)	$-I_{CBO}$	<50	–	–	nA
(V_{CB} = 200 V)	$-I_{CBO}$	–	<50	–	nA
(V_{CB} = 250 V)	$-I_{CBO}$	–	–	<50	nA
Emitter cutoff current (V_{EBO} = 3 V)	$-I_{EBO}$	<50	<50	<50	nA
Collector-emitter saturation voltage (I_C = 30 mA; I_B = 6 mA)	$-V_{CEsat}$	<1	<1	<1	V
DC current gain (I_C = 30 mA; V_{CE} = 10 V)	h_{FE}	>25	>25	>25	–

Dynamic characteristics (T_{amb} = 25 °C)					
Transition frequency (V_{CE} = 10 V; I_C = 15 mA; f = 20 MHz)	f_T	90	90	90	MHz
Reverse transfer capacitance (V_{CE} = 30 V; f = 1 MHz; I_C = 1 mA)	$-C_{12e}$	4.2	4.2	4.2	pF
Output capacitance (V_{CB} = 30 V; f = 1 MHz; I_E = 0)	C_{22e}	5.5	5.5	5.5	pF

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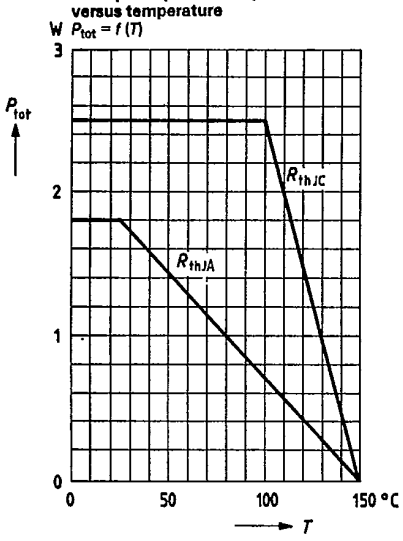
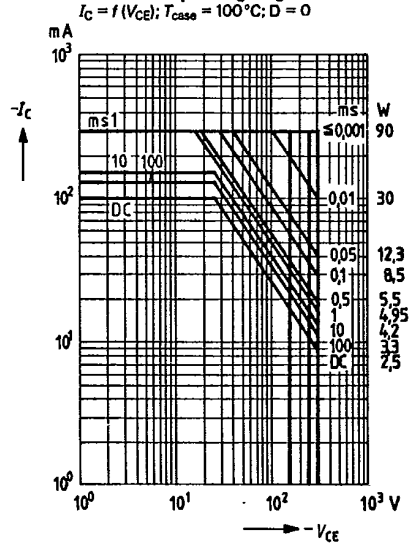
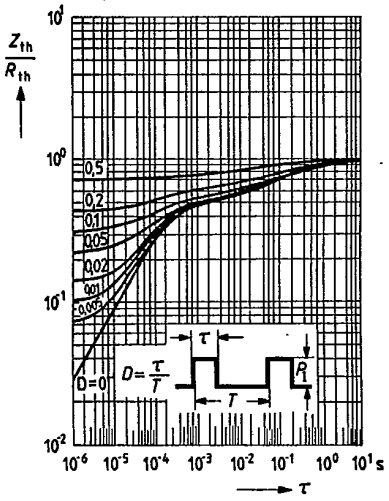
Total perm. power dissipation versus temperature



Permissible operating range
$I_C = f(V_{CE})$; $T_{case} = 100$ °C; D = 0



Permissible pulse load
$\frac{Z_{thJC}}{R_{thJC}} = f(\tau)$



Characteristic curves for:
Collector current $I_C = f(V_{BE})$
Output characteristics $I_C = f(V_{CE})$
Base current $I_B = f(I_C)$ and
Transition frequency $f_T = f(I_C)$
similar to those of BF 857, 858, 859