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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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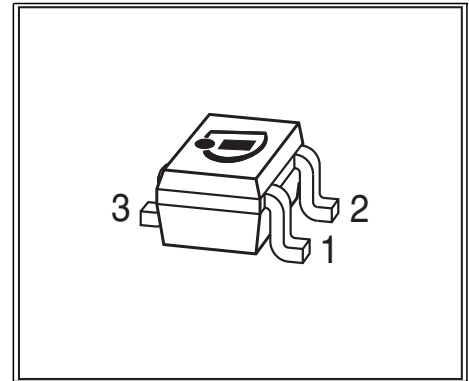
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NPN Silicon RF Transistor

- For linear broadband amplifier application up to 500 MHz
- SAW filter driver in TV tuners
- Pb-free (RoHS compliant) package



Type	Marking	Pin Configuration			Package
BF799W	LKs	1 = B	2 = E	3 = C	SOT323

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	20	V
Collector-emitter voltage	V_{CES}	30	
Collector-base voltage	V_{CBO}	30	
Emitter-base voltage	V_{EBO}	3	
Collector current	I_C	35	mA
Base current	I_B	10	
Total power dissipation $T_S = 107\text{ °C}$	P_{tot}	280	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

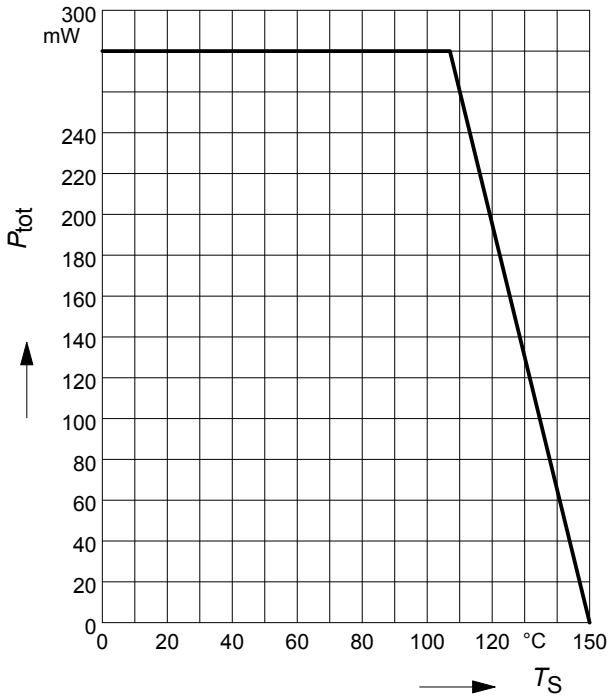
Junction - soldering point ¹⁾	R_{thJS}	≤ 155	K/W
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¹⁾For calculation of R_{thJA} please refer to Application Note AN077 (Thermal Resistance Calculation)

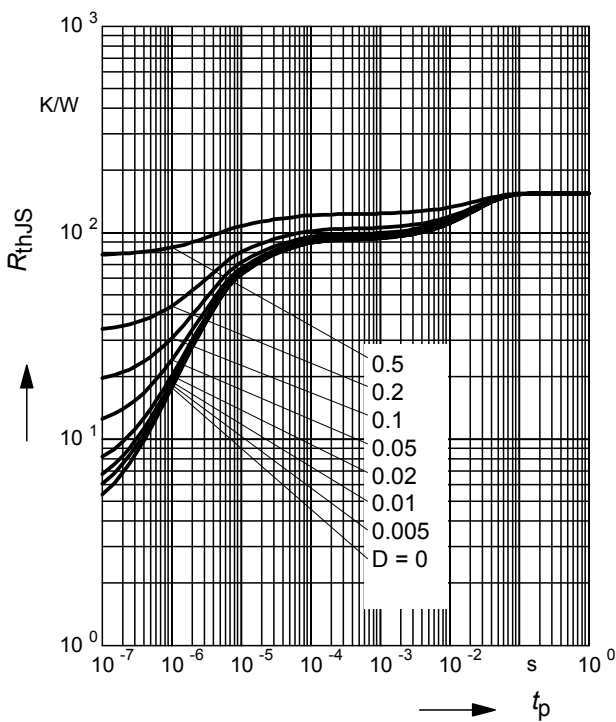
Electrical Characteristics at $T_A = 25\text{ °C}$, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Collector-emitter breakdown voltage $I_C = 1\text{ mA}, I_B = 0$	$V_{(BR)CEO}$	20	-	-	V
Collector-base breakdown voltage $I_C = 10\text{ }\mu\text{A}, I_E = 0$	$V_{(BR)CBO}$	30	-	-	
Base-emitter breakdown voltage $I_E = 10\text{ }\mu\text{A}, I_C = 0$	$V_{(BR)EBO}$	3	-	-	
Collector-base cutoff current $V_{CB} = 20\text{ V}, I_E = 0$	I_{CBO}	-	-	100	nA
DC current gain $I_C = 5\text{ mA}, V_{CE} = 10\text{ V}$ $I_C = 20\text{ mA}, V_{CE} = 10\text{ V}$	h_{FE}	35 40	95 100	- 250	-
Collector-emitter saturation voltage $I_C = 20\text{ mA}, I_B = 2\text{ mA}$	V_{CEsat}	-	0.1	0.3	V
Base-emitter saturation voltage $I_C = 20\text{ mA}, I_B = 2\text{ mA}$	V_{BEsat}	-	-	0.95	
AC characteristics					
Transition frequency $I_C = 5\text{ mA}, V_{CE} = 10\text{ V}, f = 100\text{ MHz}$ $I_C = 20\text{ mA}, V_{CE} = 8\text{ V}, f = 100\text{ MHz}$	f_T	- -	800 1100	- -	MHz
Output capacitance $V_{CB} = 10\text{ V}, I_E = 0\text{ mA}, f = 1\text{ MHz}$	C_{ob}	-	0.96	-	pF
Collector-base capacitance $V_{CB} = 10\text{ V}, f = 1\text{ MHz}$	C_{cb}	-	0.7	-	
Collector-emitter capacitance $V_{CE} = 10\text{ V}, f = 1\text{ MHz}$	C_{ce}	-	0.28	-	
Noise figure $I_C = 5\text{ mA}, V_{CE} = 10\text{ V}, f = 100\text{ MHz},$ $Z_S = 50\text{ }\Omega$	F	-	3	-	dB
Output conductance $I_C = 20\text{ mA}, V_{CE} = 10\text{ V}, f = 35\text{ MHz}$	g_{22e}	-	60	-	μS

Total power dissipation $P_{tot} = f(T_S)$

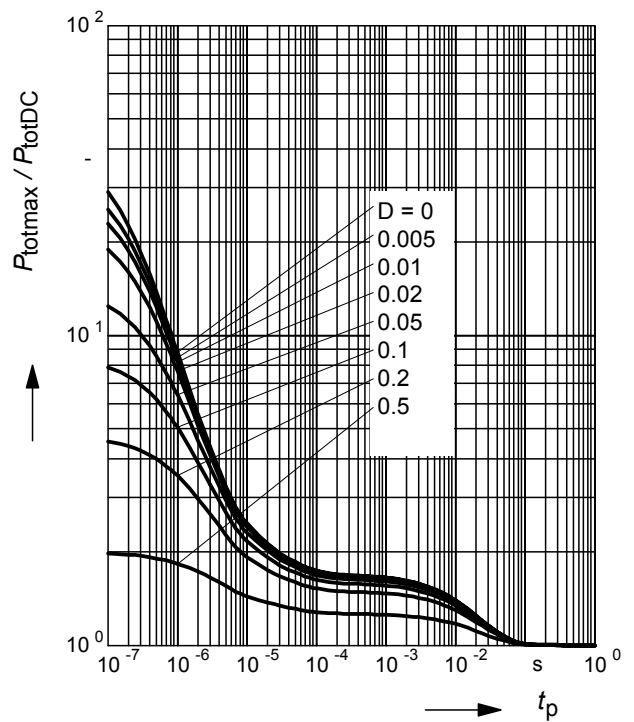


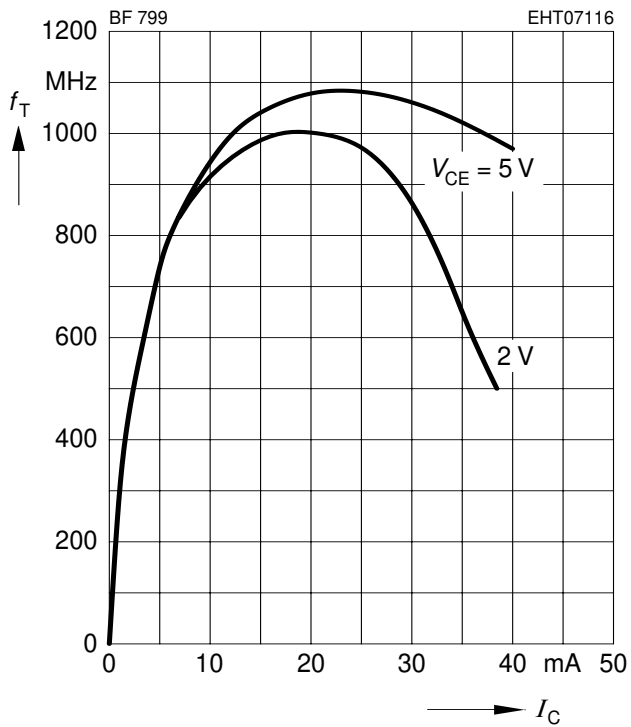
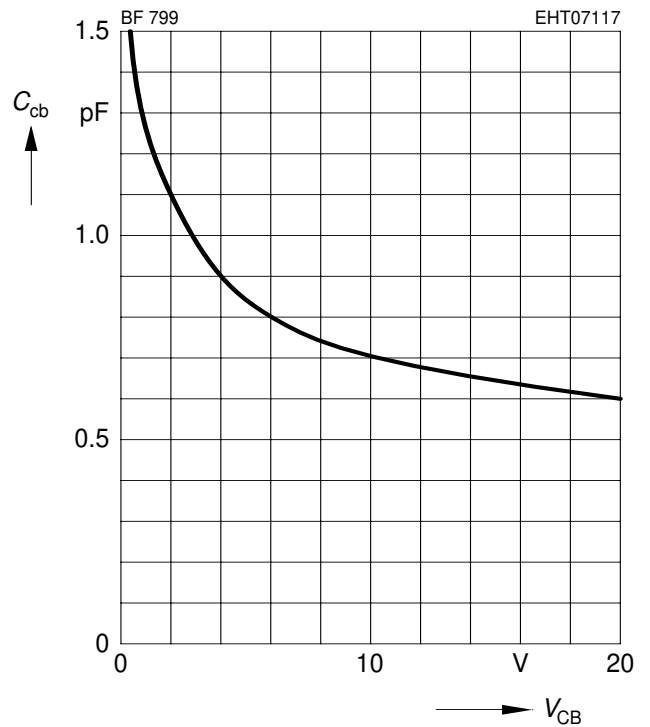
Permissible Pulse Load $R_{thJS} = f(t_p)$



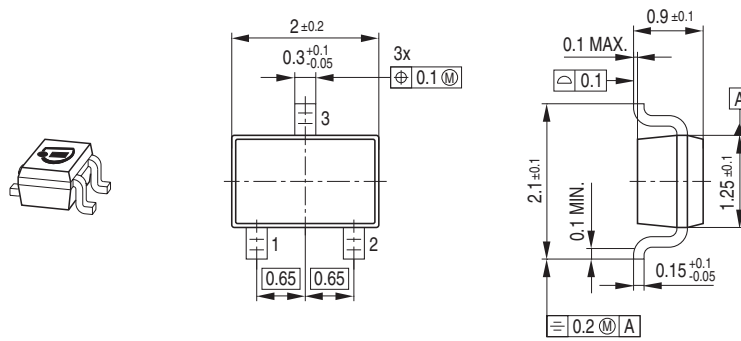
Permissible Pulse Load

$P_{totmax}/P_{totDC} = f(t_p)$



Transition frequency $f_T = f(I_C)$
 $f = 100\text{MHz}$

Collector-base capacitance $C_{cb} = f(V_{CB})$
 $f = 1\text{ MHz}$


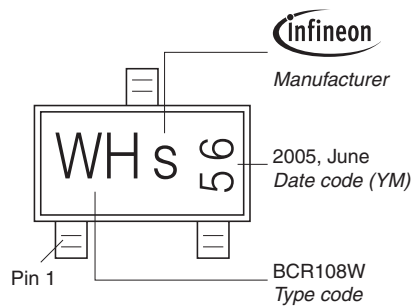
Package Outline



Foot Print

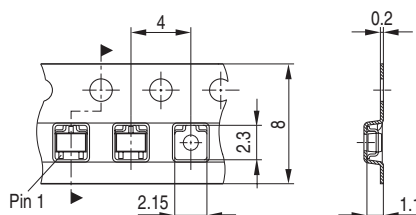


Marking Layout (Example)



Standard Packing

Reel \varnothing 180 mm = 3.000 Pieces/Reel
 Reel \varnothing 330 mm = 10.000 Pieces/Reel



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