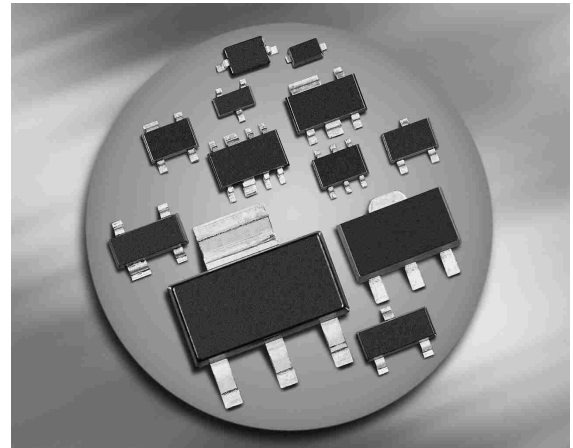


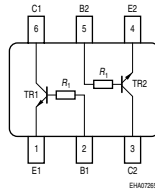
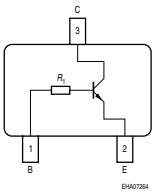
NPN Silicon Digital Transistor

- Switching circuit, inverter, interface circuit, driver circuit
- Built in bias resistor ($R_1=10k\Omega$)
- For 6-PIN packages: two (galvanic) internal isolated transistors with good matching in one package



BCR129/F/L3
BCR129T/W

BCR129S



Type	Marking	Pin Configuration						Package
		1=B	2=E	3=C	-	-	-	
BCR129	WVs	1=B	2=E	3=C	-	-	-	SOT23
BCR129F	WVs	1=B	2=E	3=C	-	-	-	TSFP-3
BCR129L3	WV	1=B	2=E	3=C	-	-	-	TSLP-3-4
BCR129S	WVs	1=E1	2=B1	3=C2	4=E2	5=B2	6=C1	SOT363
BCR129T	WVs	1=B	2=E	3=C	-	-	-	SC75
BCR129W	WVs	1=B	2=E	3=C	-	-	-	SOT323

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	50	V
Collector-base voltage	V_{CBO}	50	
Emitter-base voltage	V_{EBO}	5	
Input on voltage	$V_{i(on)}$	20	
Collector current	I_C	100	mA
Total power dissipation- BCR129, $T_S \leq 102^\circ\text{C}$ BCR129F, $T_S \leq 128^\circ\text{C}$ BCR129L3, $T_S \leq 135^\circ\text{C}$ BCR129S, $T_S \leq 115^\circ\text{C}$ BCR129T, $T_S \leq 109^\circ\text{C}$ BCR129W, $T_S \leq 124^\circ\text{C}$	P_{tot}	200 250 250 250 250 250	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}		K/W
BCR129		≤ 240	
BCR129F		≤ 90	
BCR129L3		≤ 60	
BCR129S		≤ 140	
BCR129T		≤ 165	
BCR129W		≤ 105	

¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

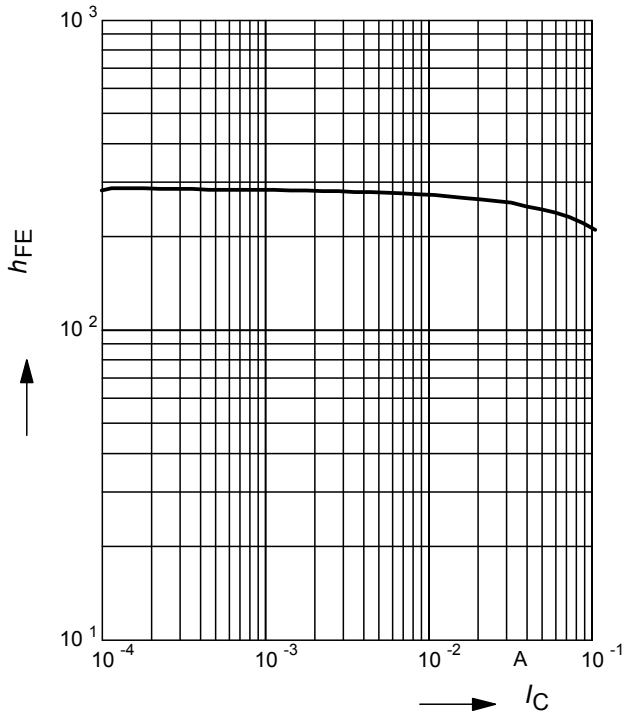
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage $I_C = 100 \mu\text{A}, I_B = 0$	$V_{(BR)CEO}$	50	-	-	V
Collector-base breakdown voltage $I_C = 10 \mu\text{A}, I_E = 0$	$V_{(BR)CBO}$	50	-	-	
Emitter-base breakdown voltage $I_E = 10 \mu\text{A}, I_C = 0$	$V_{(BR)EBO}$	5	-	-	
Collector-base cutoff current $V_{CB} = 40 \text{ V}, I_E = 0$	I_{CBO}	-	-	100	nA
DC current gain ¹⁾ $I_C = 5 \text{ mA}, V_{CE} = 5 \text{ V}$	h_{FE}	120	-	630	-
Collector-emitter saturation voltage ¹⁾ $I_C = 10 \text{ mA}, I_B = 0.5 \text{ mA}$	V_{CEsat}	-	-	0.3	V
Input off voltage $I_C = 100 \mu\text{A}, V_{CE} = 5 \text{ V}$	$V_{i(off)}$	0.4	-	1	
Input on voltage $I_C = 2 \text{ mA}, V_{CE} = 0.3 \text{ V}$	$V_{i(on)}$	0.5	-	1.1	
Input resistor	R_1	7	10	13	k Ω
AC Characteristics					
Transition frequency $I_C = 10 \text{ mA}, V_{CE} = 5 \text{ V}, f = 100 \text{ MHz}$	f_T	-	150	-	MHz
Collector-base capacitance $V_{CB} = 10 \text{ V}, f = 1 \text{ MHz}$	C_{cb}	-	3	-	pF

¹⁾Pulse test: $t < 300 \mu\text{s}$; $D < 2\%$

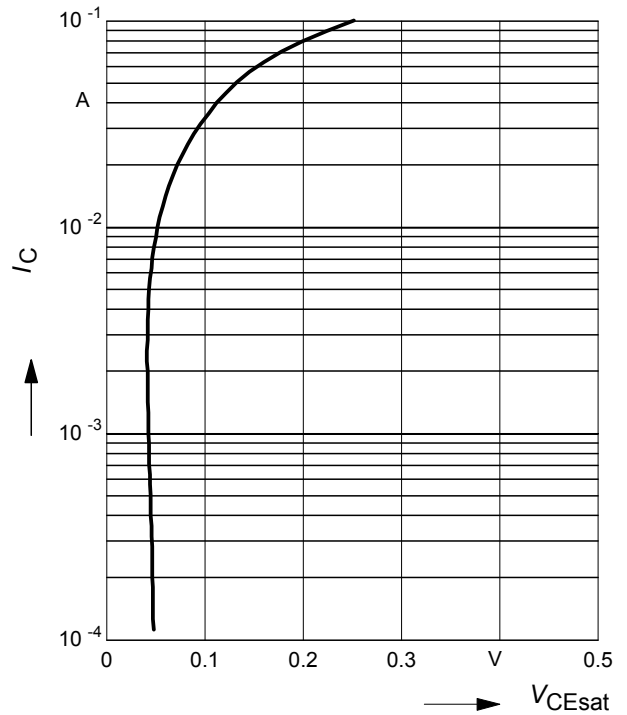
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 5\text{ V}$ (common emitter configuration)



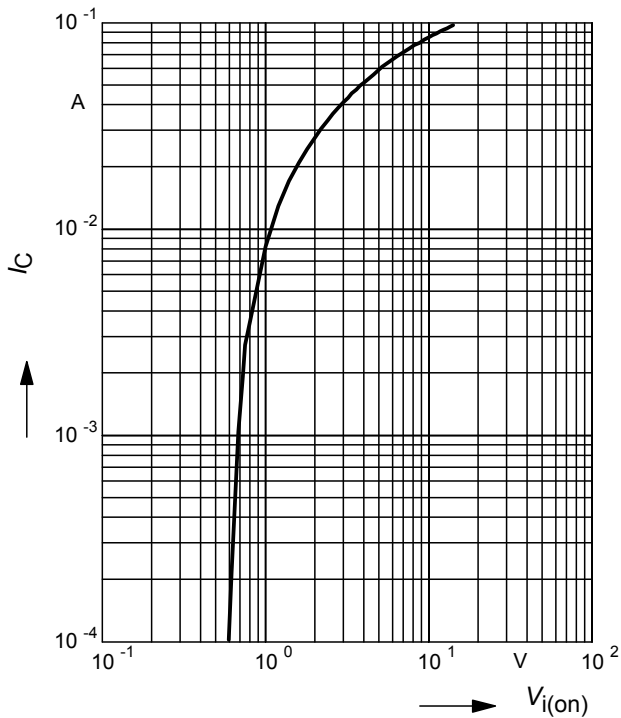
Collector-emitter saturation voltage

$V_{CEsat} = f(I_C), h_{FE} = 20$



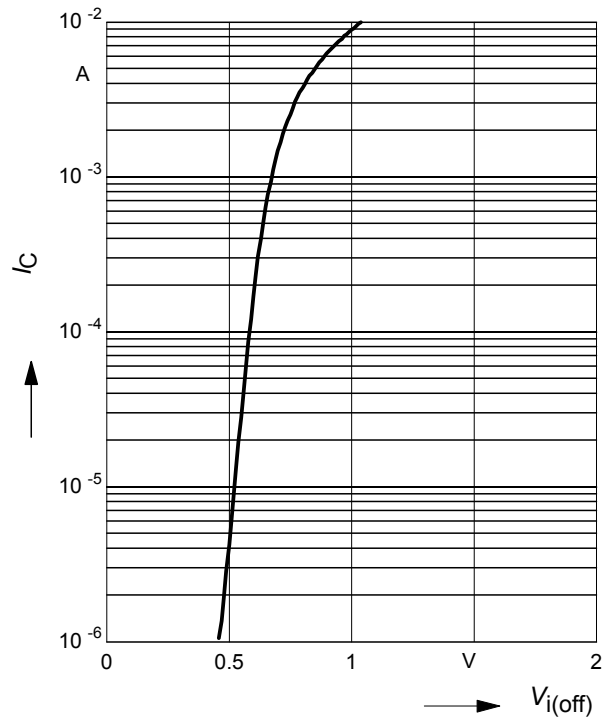
Input on Voltage $V_{i(on)} = f(I_C)$

$V_{CE} = 0.3\text{ V}$ (common emitter configuration)

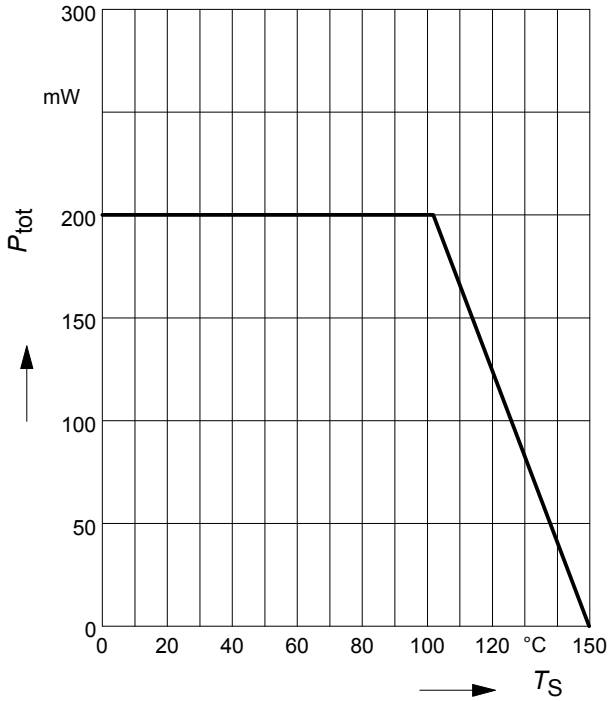


Input off voltage $V_{i(off)} = f(I_C)$

$V_{CE} = 5\text{ V}$ (common emitter configuration)

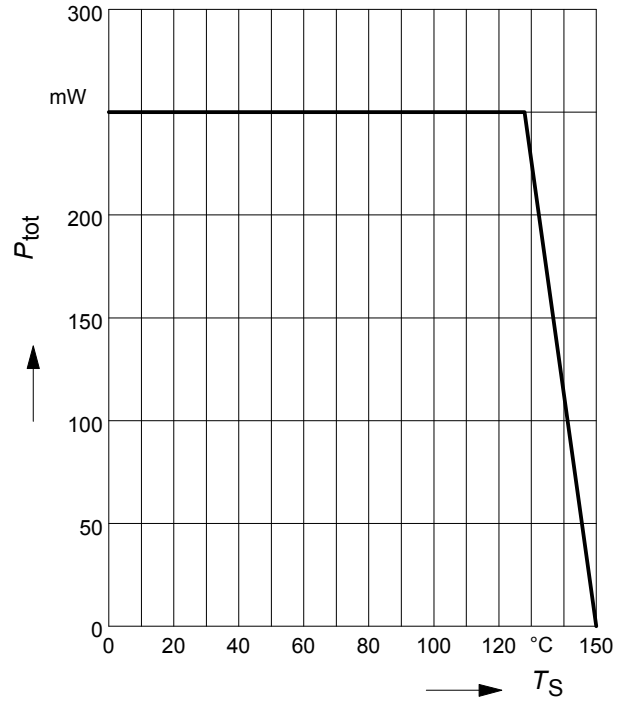


Total power dissipation $P_{tot} = f(T_S)$



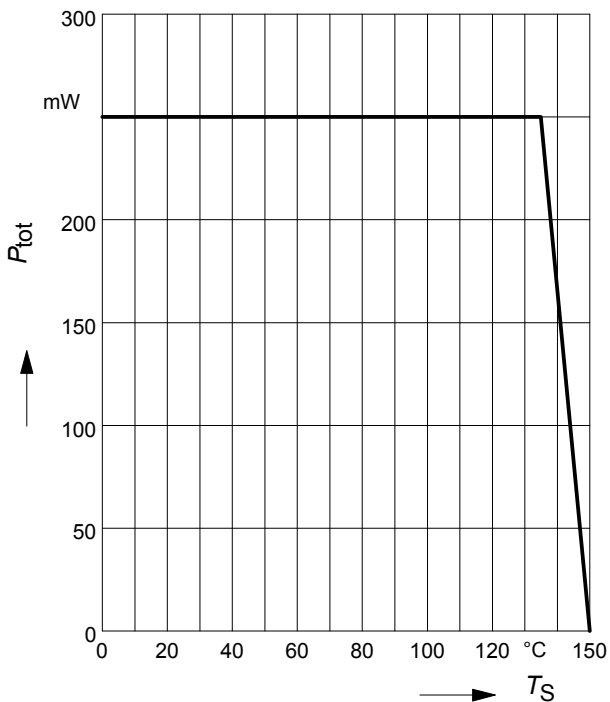
Total power dissipation $P_{tot} = f(T_S)$

BCR129F



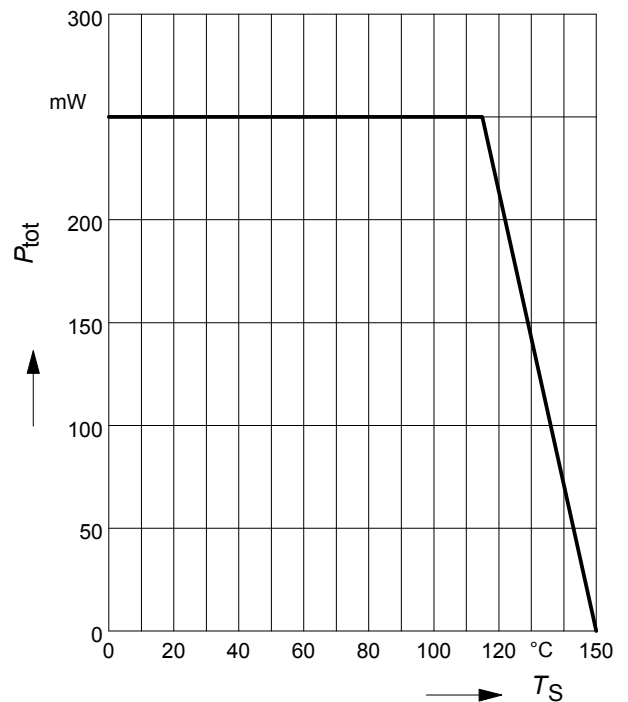
Total power dissipation $P_{tot} = f(T_S)$

BCR129L3



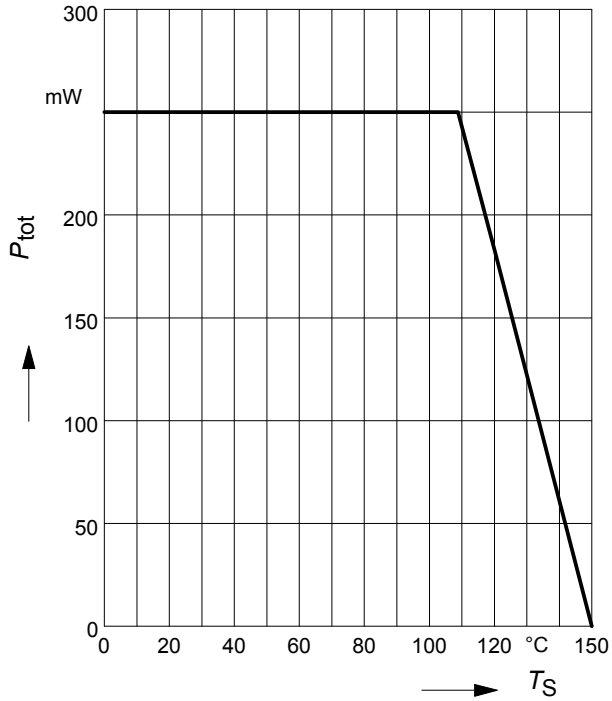
Total power dissipation $P_{tot} = f(T_S)$

BCR129S



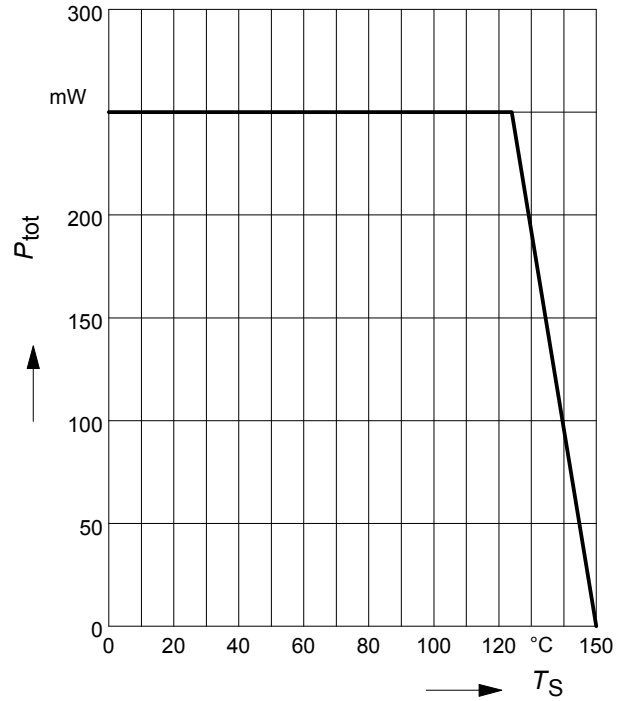
Total power dissipation $P_{tot} = f(T_S)$

BCR129T



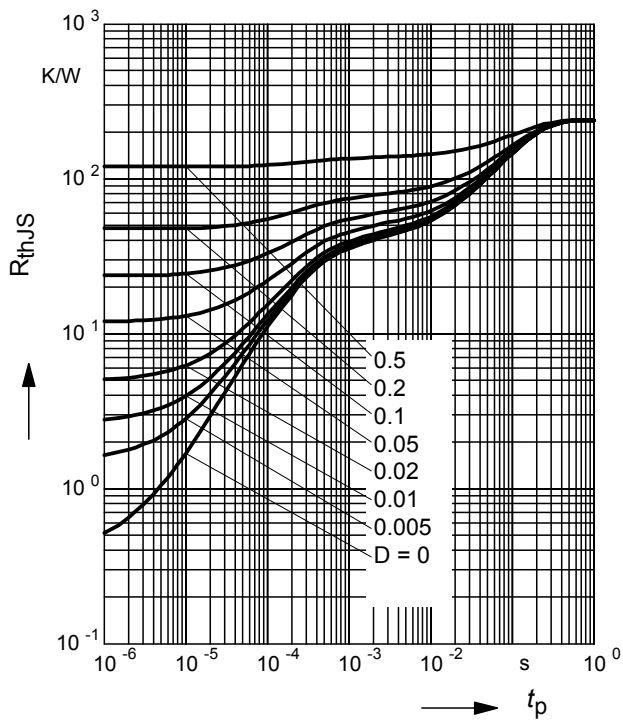
Total power dissipation $P_{tot} = f(T_S)$

BCR129W



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

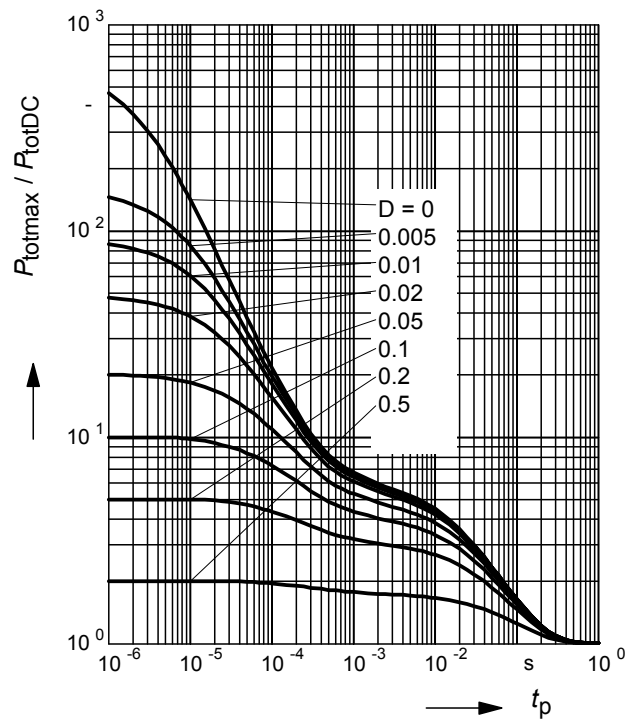
BCR129



Permissible Pulse Load

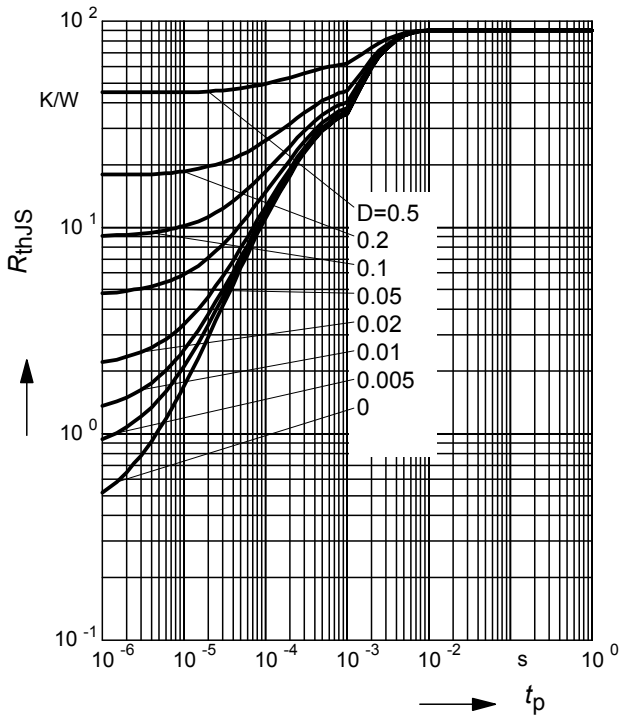
$P_{totmax}/P_{totDC} = f(t_p)$

BCR129



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

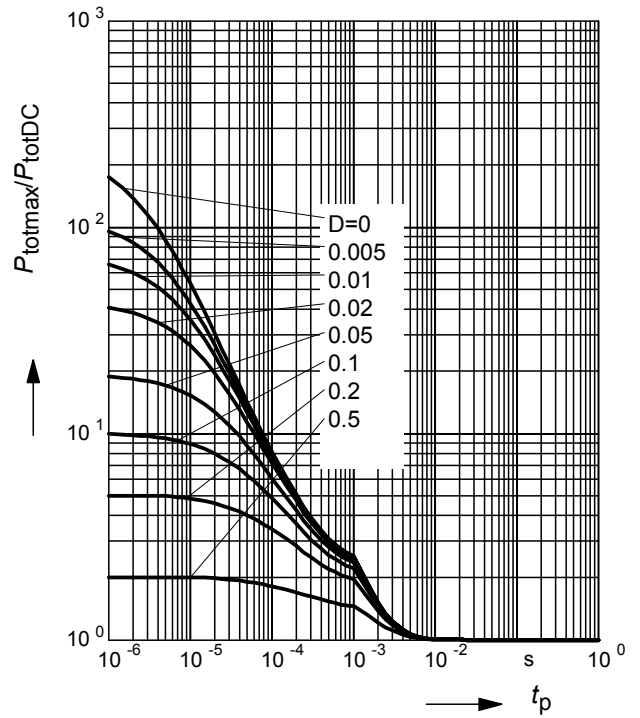
BCR129F



Permissible Pulse Load

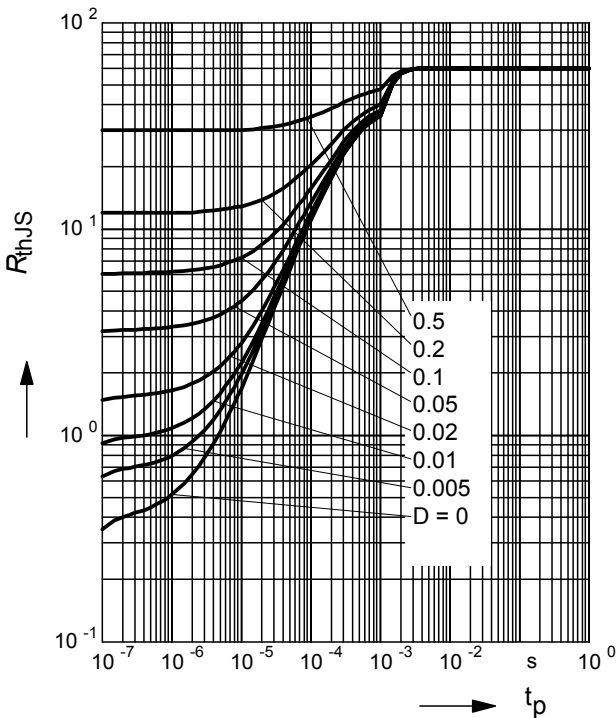
$P_{totmax}/P_{totDC} = f(t_p)$

BCR129F



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

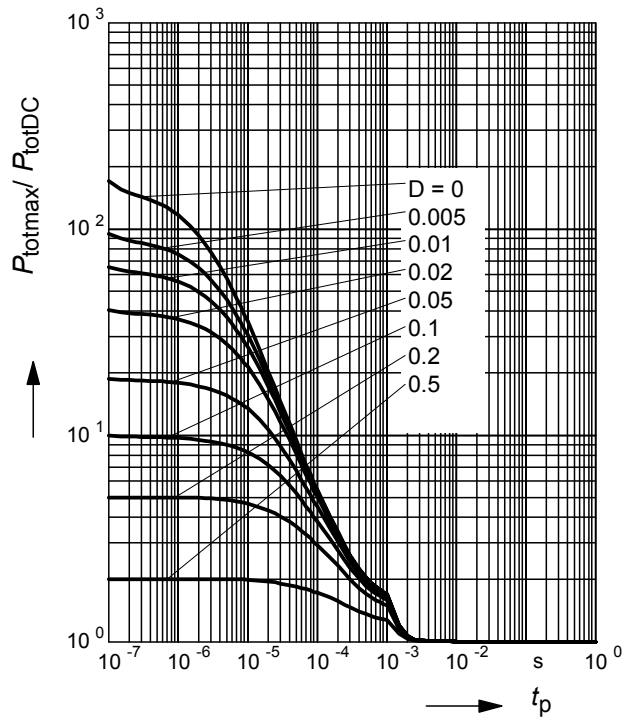
BCR129L3



Permissible Pulse Load

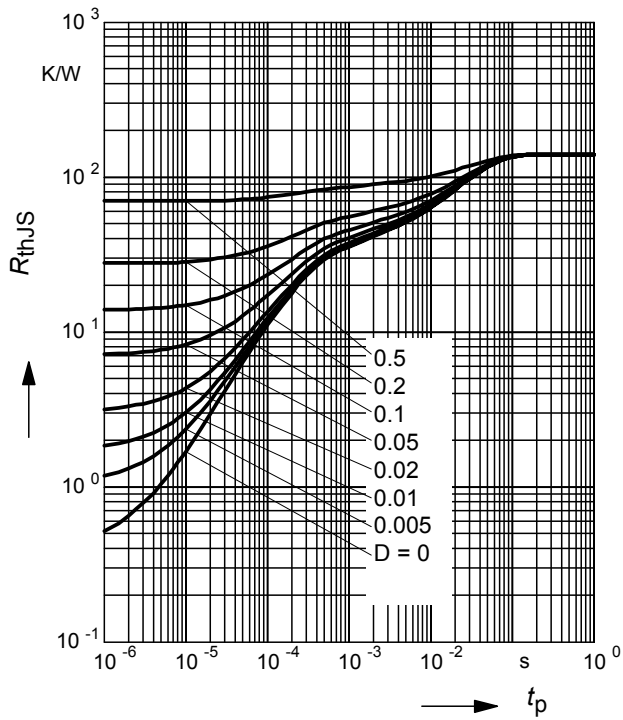
$P_{totmax}/P_{totDC} = f(t_p)$

BCR129L3



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

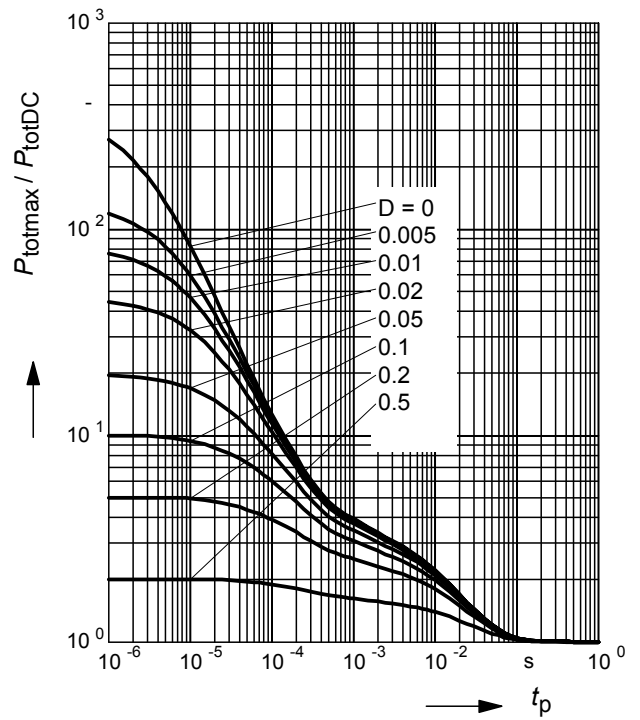
BCR129S



Permissible Pulse Load

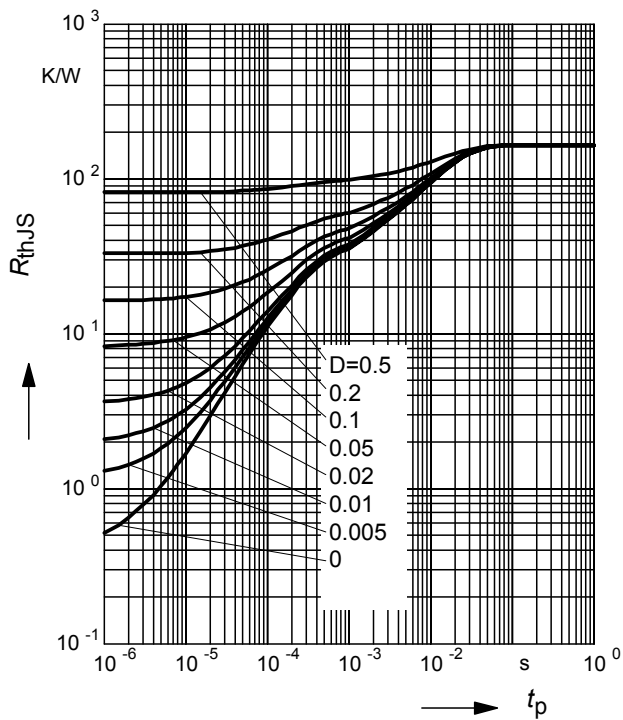
$P_{totmax}/P_{totDC} = f(t_p)$

BCR129S



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

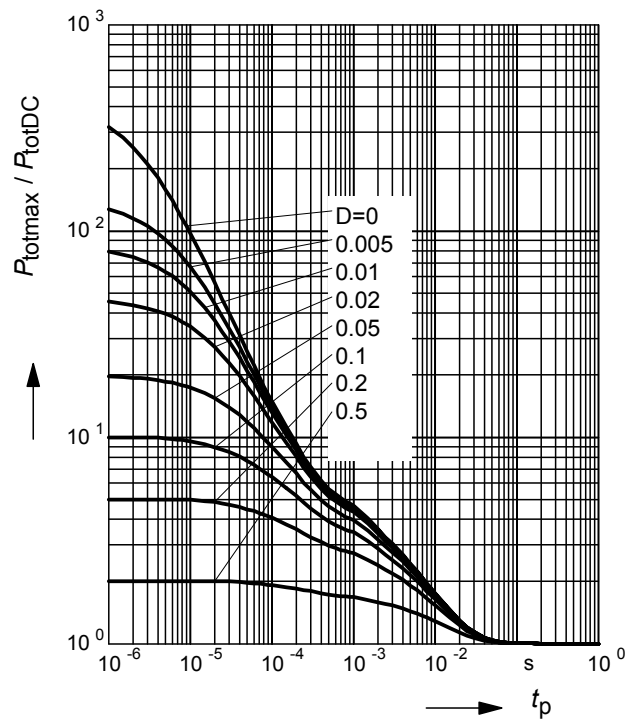
BCR129T



Permissible Pulse Load

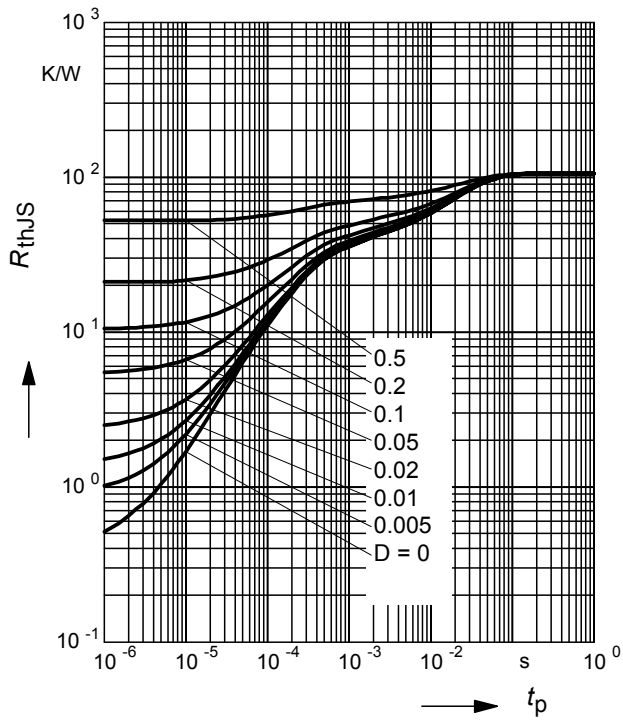
$P_{totmax}/P_{totDC} = f(t_p)$

BCR129T



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

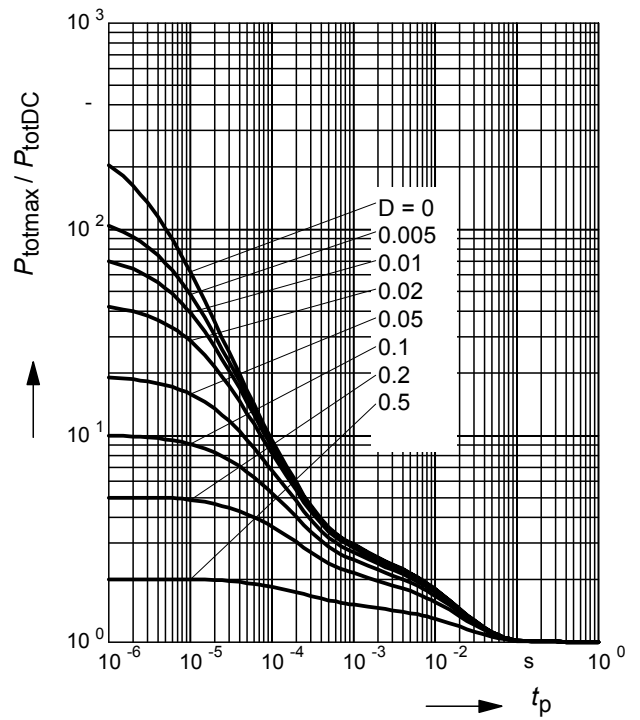
BCR129W



Permissible Pulse Load

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

BCR129W





LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.