



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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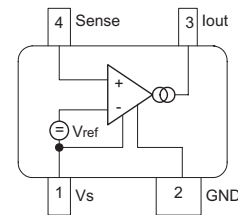
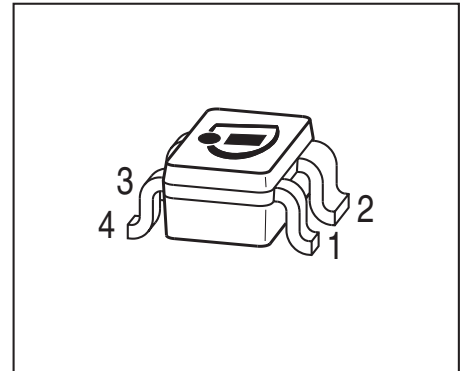


Active Bias Controller
Characteristics

- Supplies stable bias current from 1.8V operating voltage on
- Low voltage drop:
110mV for 10mA collector current

Application notes

- Stabilizing bias current of NPN transistors and FET's from 100 μ A to 20mA
- Ideal supplement for Sieget and other transistors
- Pb-free (RoHS compliant) package¹⁾
- Qualified according AEC Q101



Type	Marking	Pin Configuration				Package
BCR410W	W8s	1= Vs	2=GND	3=Iout	4=Sense	SOT343

Maximum Ratings

Parameter	Symbol	Value	Unit
Supply voltage	V_S	18	V
Output current	I_{out}	0.5	mA
Total power dissipation, $T_S = 110\text{ }^\circ\text{C}$	P_{tot}	100	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Junction - soldering point ²⁾	R_{thJS}	≤ 470	K/W
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¹Pb-containing package may be available upon special request

²For calculation of R_{thJA} please refer to Application Note Thermal Resistance

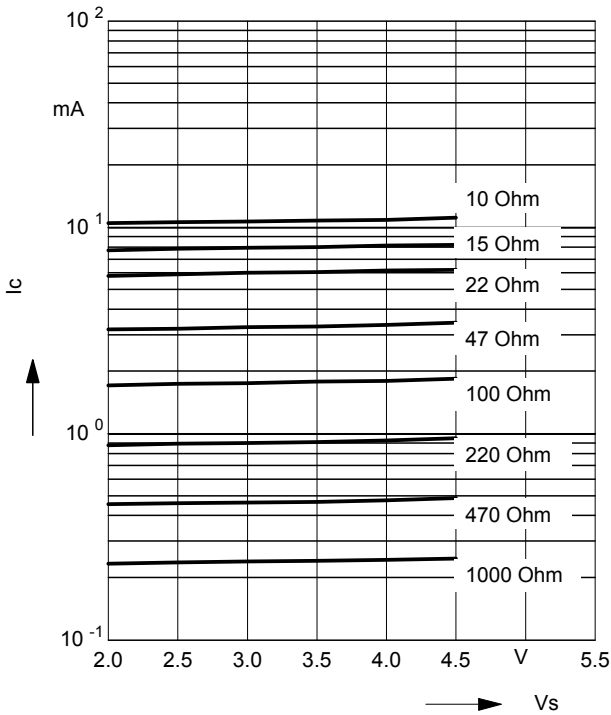
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Additional current consumption $V_S = 3\text{ V}$	I_0	-	200	400	μA
DC Characteristics with stabilized NPN-Transistors					
Lowest sufficient battery voltage	$V_{S\text{min}}$	-	1.8	-	V
Voltage drop $I_C = 10\text{ mA}$	V_{drop}	-	110	-	mV
Change of I_C versus h_{FE} $h_{FE} = 50$	$\Delta I_C / I_C$	-	tdb	-	$\Delta h_{FE} / h_{FE}$
Change of I_C versus V_S $V_S = 3\text{ V}$	$\Delta I_C / I_C$	-	2	-	%/V
Change of I_C versus T_A	$\Delta I_C / I_C$	-	0.15	-	%/K

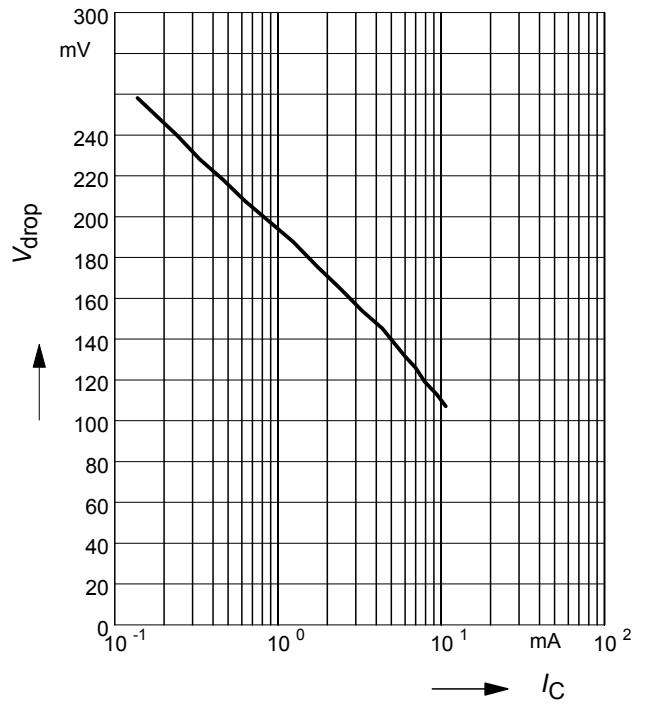
Collector Current $I_C = f(V_S)$

of stabilized NPN Transistor

Parameter $R_{ext.}$ (Ω)

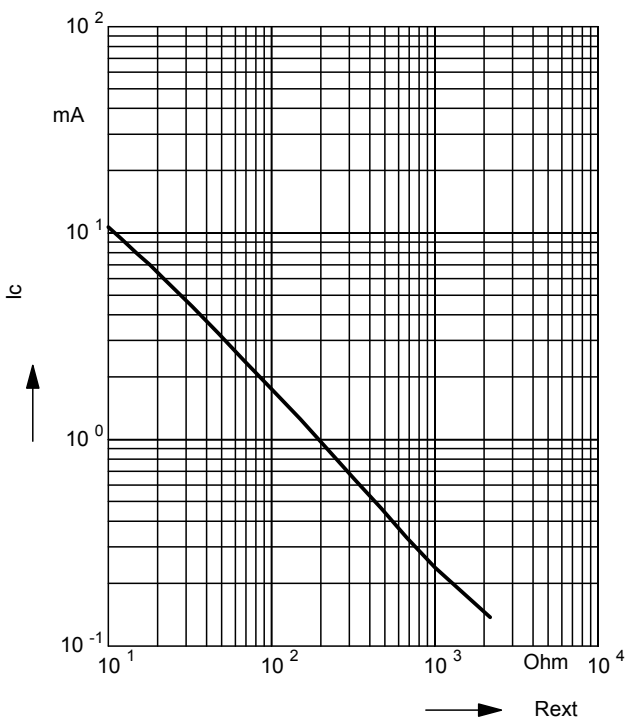


Voltage drop $V_{drop} = f(I_C)$

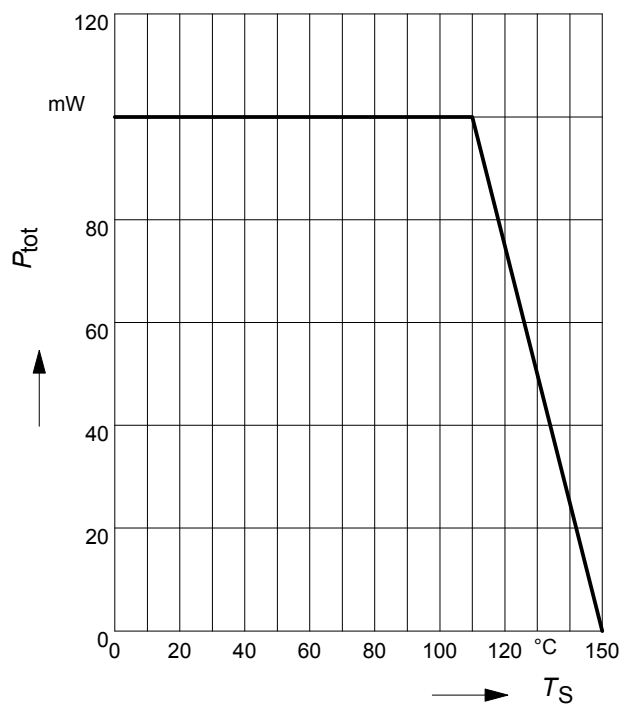


Collector current $I_C = f(R_{ext.})$

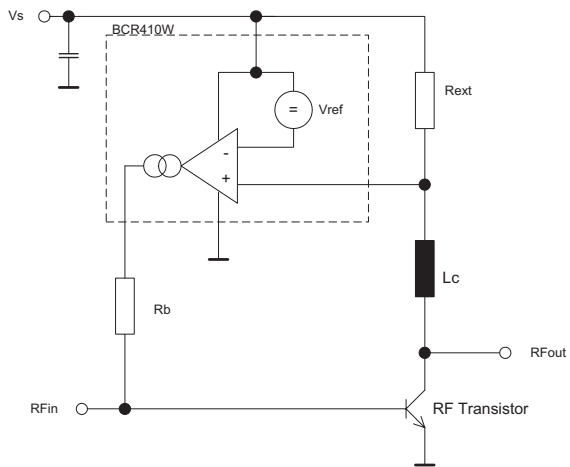
of stabilized NPN Transistor



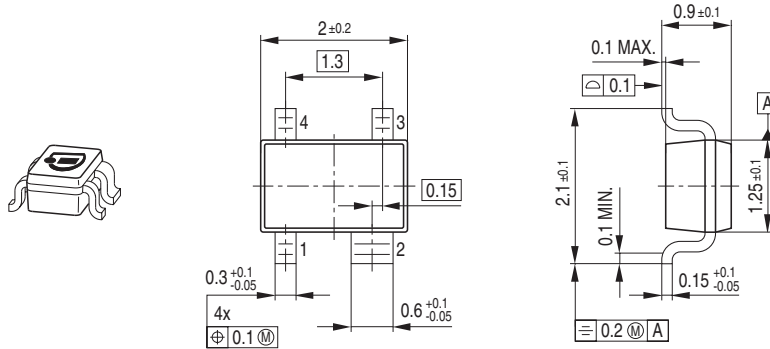
Total power dissipation $P_{tot} = f(T_S)$



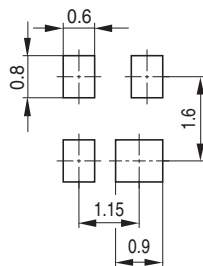
Application Circuit:



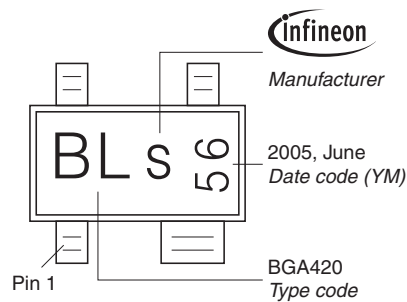
Package Outline



Foot Print

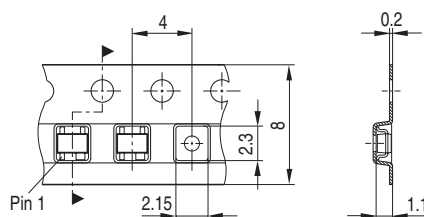


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
 Reel ø330 mm = 10.000 Pieces/Reel



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