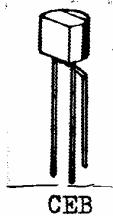


# BC413 BC414 BC415 BC416

COMPLEMENTARY SILICON AF LOW NOISE SMALL SIGNAL TRANSISTORS

THE BC413, BC414, BC415, BC416 ARE SILICON PLANAR EPITAXIAL TRANSISTORS FOR AF LOW NOISE PREAMPLIFIER APPLICATIONS. THE BC413, BC414 ARE NPN AND ARE COMPLEMENTARY TO THE PNP BC415, BC416 RESPECTIVELY.

CASE TO-92F



<u>ABSOLUTE MAXIMUM RATINGS</u>	<small>For p-n-p devices, voltage and current values are negative.</small>	<u>BC413 (NPN)</u>	<u>BC414 (NPN)</u>	<u>BC415 (PNP)</u>	<u>BC416 (PNP)</u>
Collector-Base Voltage	V <sub>CBO</sub>	45V	50V	45V	50V
Collector-Emitter Voltage	V <sub>CEO</sub>	30V	45V	35V	45V
Emitter-Base Voltage	V <sub>EBO</sub>			5V	
Collector Current	I <sub>C</sub>			100mA	
Total Power Dissipation @ T <sub>A</sub> ≤25°C	P <sub>TOT</sub>			300mW	
Operating Junction & Storage Temperature	T <sub>j</sub> , T <sub>STG</sub>			derate 2.4mW/°C above 25°C	
				-55 to 150°C	

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	BV <sub>CBO</sub>	45	V			I <sub>C</sub> =10μA I <sub>E</sub> =0
BC413	BV <sub>CBO</sub>	45	V			
BC414	BV <sub>CBO</sub>	50	V			
BC415	BV <sub>CBO</sub>	45	V			
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	30	V		I <sub>C</sub> =10mA (Pulsed) I <sub>B</sub> =0	
BC413	BV <sub>CEO</sub>	30	V			
BC414	BV <sub>CEO</sub>	45	V			
BC415	BV <sub>CEO</sub>	35	V			
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	5	V		I <sub>E</sub> =10μA I <sub>C</sub> =0	
BC416	BV <sub>EBO</sub>	5	V			
Collector Cutoff Current	I <sub>CBO</sub>	15	nA	15	V <sub>CB</sub> =30V I <sub>E</sub> =0 V <sub>CB</sub> =30V I <sub>E</sub> =0 TA=150°C	
	I <sub>CBO</sub>	5	μA			
Emitter Cutoff Current	I <sub>EBO</sub>	15	nA	15	V <sub>EB</sub> =4V I <sub>C</sub> =0	
	I <sub>EBO</sub>	15	nA			
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	0.08	0.25	V	I <sub>C</sub> =10mA I <sub>B</sub> =0.5mA I <sub>C</sub> =100mA I <sub>B</sub> =5mA (Pulsed)	
	V <sub>CE(sat)</sub>	0.25	0.6	V		

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