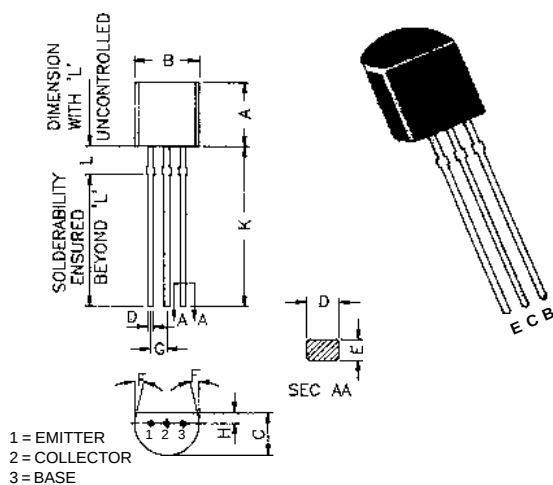


TO-92 Plastic Package

BC212L, BC212LA, BC212LB BC214L, BC214LB, BC214LC

PNP SILICON PLANAR EPITAXIAL TRANSISTORS

Amplifier Transistors



DIM	MIN	MAX
A	4,32	5,33
B	4,45	5,20
C	3,18	4,19
D	0,41	0,55
E	0,35	0,50
F	5 DEG	
G	1,14	1,40
H	1,14	1,53
K	12,70	—
L	1.982	2.082

ALL DIMENSIONS IN M.M.

ABSOLUTE MAXIMUM RATINGS

Rating	Symbol	BC212L	BC214L	Unit
Collector Emitter Voltage	V_{CEO}	50	30	V
Collector Base Voltage	V_{CBO}	60	45	V
Emitter Base Voltage	V_{EBO}	-	5	V
Collector Current Continuous	I_C	-	100	mA
Total Power Dissipation $T_a=25^\circ\text{C}$	P_D	-	350	mW
Derate Above 25°C		-	2.8	mW/ $^\circ\text{C}$
Total Power Dissipation $T_c=25^\circ\text{C}$	P_D	-	1	W
Derate Above 25°C		-	8.0	mW/ $^\circ\text{C}$
Operating & Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150		$^\circ\text{C}$

THERMAL RESISTANCE

Junction to Ambient	$R_{th(j-a)}$	-	357	-	$^\circ\text{C/W}$
Junction to Case	$R_{th(j-c)}$	-	125	-	$^\circ\text{C/W}$

BC212L, BC212LA, BC212LB
BC214L, BC214LB, BC214LC

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Characteristic		Symbol	Min	Typ	Max	Unit
<i>Collector Emitter Voltage</i>						
$I_C=2\text{mA}, I_B=0$	BC212L	BV_{CEO}	50	-	-	V
	BC214L		30	-	-	V
<i>Collector Base Voltage</i>						
$I_C=10\mu\text{A}, I_E=0$	BC212L	BV_{CBO}	60	-	-	V
	BC214L		45	-	-	V
<i>Emitter Base Voltage</i>						
$I_E=10\mu\text{A}, I_C=0$		BV_{EBO}	5	-	-	V
<i>Collector Cutoff Current</i>						
$V_{CB}=30\text{V}, I_E=0$		I_{CBO}	-	-	15	nA
<i>Emitter Cutoff Current</i>						
$V_{EB}=4\text{V}, I_C=0$		I_{EBO}	-	-	15	nA
<i>DC Current Gain</i>						
$I_C=10\mu\text{A}, V_{CE}=5\text{V}$	BC212L	h_{FE}	40	-	-	-
	BC214L		100	-	-	-
$I_C=2\text{mA}, V_{CE}=5\text{V}$	BC212L		60	-	-	-
	BC214L		140	-	600	-
$I_C=100\text{mA}, V_{CE}=5\text{V}^*$			-	120	-	-
<i>Collector Emitter Sat. Voltage</i>						
$I_C=10\text{mA}, I_B=0.5\text{mA}$		$V_{CE(sat)}$	-	0.10	-	V
$I_C=100\text{mA}, I_B=5\text{mA}^*$			-	0.25	0.6	V
<i>Base Emitter Sat. Voltage</i>						
$I_C=100\text{mA}, I_B=5\text{mA}$		$V_{BE(sat)}$	-	1.00	1.4	V
<i>Base Emitter On Voltage</i>						
$I_C=2\text{mA}, V_{CE}=5\text{V}$		$V_{BE(on)}$	0.60	0.62	0.72	V

DYNAMIC CHARACTERISTICS

<i>Transition Frequency</i>						
$I_C=10\text{mA}, V_{CE}=5\text{V}, f=50\text{MHz}$	BC212L	f_T	-	280	-	MHz
	BC214L		-	320	-	MHz
<i>Output Capacitance</i>						
$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		C_{ob}	-	-	6.0	pF
<i>Noise Figure</i>						
$I_C=200\mu\text{A}, V_{CE}=5\text{V}, R_s=2\text{k}\Omega$	BC212L	N_F	-	-	10	dB
$f=1\text{KHz}, f=200\text{Hz}$						
$I_C=0.2\text{mA}, V_{CE}=5\text{V}, R_s=2\text{k}\Omega$	BC214L		-	-	2	dB
$f=30\text{Hz to } 15\text{KHz}$						

BC212L, BC212LA, BC212LB
BC214L, BC214LB, BC214LC

Characteristic		Symbol	Min	Typ	Max	Unit
<i>Small Signal Current Gain</i>						
$I_C=2mA, V_{CE}=5V, f=1KHz$	BC212L	h_{fe}	60	-	-	-
	BC214L		140	-	-	-
	A		100	-	300	-
	B		200	-	400	-
	C		350	-	600	-

* Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

Notes

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/ CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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