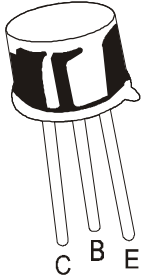


**NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR**

**BD115**



**TO-39  
Metal Can Package**

**ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise)**

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Emitter Voltage	$V_{CEO}$	180	V
Collector Emitter Voltage ( $R_{BE} \leq 1KW$ )	$V_{CER}$	245	V
Collector Base Voltage	$V_{CBO}$	245	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current Continuous	$I_C$	150	mA
Peak	$I_{CM}$	200	mA
Power Dissipation @ Ta=50°C	$P_D$	6	W
Storage Temperature	$T_j, T_{stg}$	-55 to +200	°C
<b>THERMAL RESISTANCE</b>			
Junction to Ambient	$R_{th(j-a)}$	25	°C/W

**ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)**

DESCRIPTION	SYMBOL	TEST CONDITION	VALUE			UNITS
			MIN	TYP	MAX	
Collector Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=1mA, I_B=0$	180			V
Collector Base Breakdown Current	$BV_{CBO}$	$I_C=100\mu A, I_E=0$	245			V
Emitter Base Breakdown Voltage	$B_{VEBO}$	$I_E=100\mu A, I_C=0$	5			V
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=200V, I_E=0$			15	nA
		$V_{CB}=200V, I_E=0, T_j=200^\circ C$		550		$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$			100	$\mu A$
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$ *	$I_C=100mA, I_B=10mA$			3.5	V
Base Emitter On Voltage	$V_{BE(on)}$ *	$I_C=50mA, V_{CE}=100V$			1.0	V
DC Current Gain	$h_{FE}$	$I_C=50mA, V_{CE}=100V$	22	60		

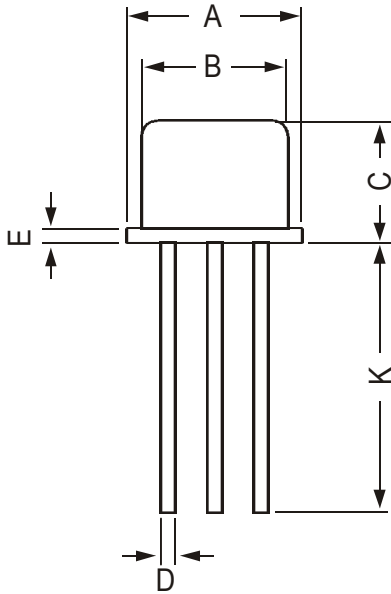
DYNAMIC CHARACTERISTICS						
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Transition Frequency	$f_T$	$I_C=30mA, V_{CE}=100V$ $f=20MHz$		145		MHz
Collector Base Time Constant	$rb'C_c$	$I_E=10mA, V_{CB}=10V,$ $f=10MHz$		30	100	ps
Feedback Capacitance	$C_{re}$	$V_{CE}=20V, I_C=10mA,$ $f=1.0MHz$		3.5		pF

\*Pulse Test: Pulse Width  $\leq 300ms$ , Duty Cycle  $\leq 2\%$

**BD115**

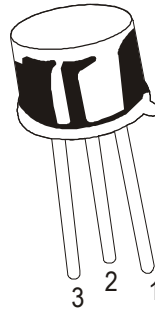
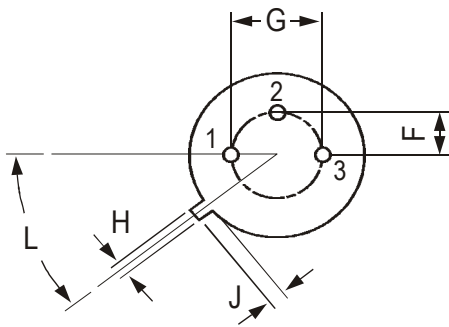
**TO-39  
Metal Can Package**

**TO-39 Metal Can Package**



All dimensions are in mm

DIM	MIN	MAX
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	—	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	—
L	42 DEG	48 DEG



**PIN CONFIGURATION**  
 1. EMITTER  
 2. BASE  
 3. COLLECTOR

**Packing Detail**

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-39	500 pcs/polybag	540 gm/500 pcs	3" x 7.5" x 7.5"	20K	17" x 15" x 13.5"	32K	40 kgs

### **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 in the Data Sheet and on the CDIL Web Site/CD are 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).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



CDIL is a registered Trademark of  
Continental Device India Limited  
C-120 Naraina Industrial Area, New Delhi 110 028, India.  
Telephone + 91-11-579 6150 Fax + 91-11-579 9569, 579 5290  
e-mail sales@cdil.com www.cdil.com