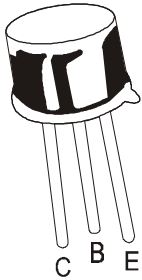




## NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR

**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		

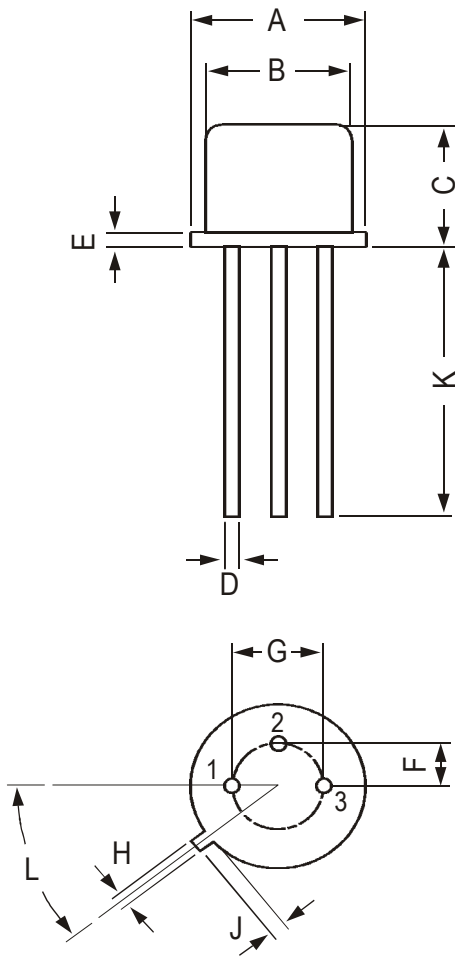
<b>DYNAMIC CHARACTERISTICS</b>						
Transition Frequency	$f_T$	$I_C=30mA, V_{CE}=100V$ $f=20MHz$		145		MHz
Collector Base Time Constant	$r_b'C_c$	$I_E=10mA, V_{CB}=10V,$ $f=10MHz$		30	100	ps
Feedback Capacitance	$C_{re}$	$V_{CE}=20V, I_C=10mA,$ $f=1.0MHz$		3.5		pF

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

BD115

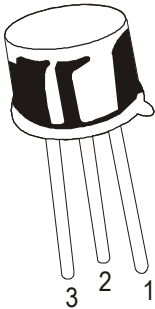
TO-39  
Metal Can Package

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