

PLASTIC-CASE BIPOLAR TRANSISTORS

T-27-90

NPN Transistors

'D' Device Types

ELECTRICAL CHARACTERISTICS at $T_A = 25^\circ\text{C}$

Device Type	I_C Max. (mA)	$V_{(BR)CBO}$ (V)	$V_{(BR)CEO}$ (V)	$V_{(BR)EBO}$ (V)	I_{CBO}		DC Current Gain				$V_{CE(sat)}$		f_T		C_{ob}^1 (pF)	t_s^1 (ns)	NF ¹ (dB)	Process
					Max. (nA)	αV_{CB} (V)	h_{FE} Min.	h_{FE} Max.	αI_C (mA)	αV_{CE} (V)	Max. (V)	αI_C (mA)	Min. (MHz)	αI_C (mA)				
D33D26	800	50 ³	40	5.0	100 ³	25	150	300	2.0	2.0	0.75	500	135	50	15	—	—	JLA
D33D27	800	50 ³	40	5.0	100 ³	25	250	500	2.0	2.0	0.75	500	150	50	15	—	—	JLA
D33D29	800	70 ³	60	5.0	100 ³	25	60	120	2.0	2.0	0.75	500	80	50	15	—	—	JLA
D33D30	800	70 ³	60	5.0	100 ³	25	100	200	2.0	2.0	0.75	500	120	50	15	—	—	JLA

NOTES:

- 1) Maximum at typical JEDEC conditions.
- 2) μA .

3) $V_{(BR)CES}/I_{CES}$, as applicable.

4) mA.

5) $V_{(BR)CER}$ at $R = 10\Omega$.

Pro-Electron Device Types

ELECTRICAL CHARACTERISTICS at $T_A = 25^\circ\text{C}$

Device Type	I_C Max. (mA)	$V_{(BR)CBO}$ (V)	$V_{(BR)CEO}$ (V)	$V_{(BR)EBO}$ (V)	I_{CBO}		DC Current Gain				$V_{CE(sat)}$		f_T		C_{ob}^1 (pF)	t_s^1 (ns)	NF ¹ (dB)	Process
					Max. (nA)	αV_{CB} (V)	h_{FE} Min.	h_{FE} Max.	αI_C (mA)	αV_{CE} (V)	Max. (V)	αI_C (mA)	Min. (MHz)	αI_C (mA)				
BC167	500	50 ³	45	5.0	15 ³	50	120	800	2.0	5.0	0.2	10	85	0.5	7.0	—	10	JGA
BC167A	500	50 ³	45	5.0	15 ³	50	120	220	2.0	5.0	0.2	10	85	0.5	7.0	—	10	JGA
BC167B	500	50 ³	45	5.0	15 ³	50	180	460	2.0	5.0	0.2	10	85	0.5	7.0	—	10	JGA
BC168	500	30 ³	20	5.0	15 ³	30	120	800	2.0	5.0	0.2	10	85	0.5	7.0	—	10	JGA
BC168A	500	30 ³	20	5.0	15 ³	30	120	220	2.0	5.0	0.2	10	85	0.5	7.0	—	10	JGA
BC168B	500	30 ³	20	5.0	15 ³	30	180	460	2.0	5.0	0.2	10	85	0.5	7.0	—	10	JGA
BC168C	500	30 ³	20	5.0	15 ³	30	380	800	2.0	5.0	0.2	10	85	0.5	7.0	—	10	JGA
BC169	500	30 ³	20	5.0	15 ³	30	180	800	2.0	5.0	0.2	10	85	0.5	7.0	—	4.0	JGA
BC169B	500	30 ³	20	5.0	15 ³	30	180	460	2.0	5.0	0.2	10	85	0.5	7.0	—	4.0	JGA
BC169C	500	30 ³	20	5.0	15 ³	30	380	800	2.0	5.0	0.2	10	85	0.5	7.0	—	4.0	JGA
BC182L	500	60	50	6.0	15	50	120	800	2.0	5.0	0.25	10	150	10	7.0	—	10	JGA
BC182LA	500	60	50	6.0	15	50	120	220	2.0	5.0	0.25	10	150	10	7.0	—	10	JGA
BC182LB	500	60	50	6.0	15	50	180	460	2.0	5.0	0.25	10	150	10	7.0	—	10	JGA
BC183L	500	45	30	6.0	15	30	120	800	2.0	5.0	0.25	10	150	10	7.0	—	10	JGA
BC183LA	500	45	30	6.0	15	30	120	220	2.0	5.0	0.25	10	150	10	7.0	—	10	JGA
BC183LB	500	45	30	6.0	15	30	180	460	2.0	5.0	0.25	10	150	10	7.0	—	10	JGA
BC183LC	500	45	30	6.0	15	30	380	800	2.0	5.0	0.25	10	150	10	7.0	—	10	JGA
BC184L	500	45	30	5.0	15	30	240	900	2.0	5.0	0.25	10	150	10	7.0	—	4.0	JGA
BC184LB	500	45	30	5.0	15	30	240	500	2.0	5.0	0.25	10	150	10	7.0	—	4.0	JGA
BC184LC	500	45	30	5.0	15	30	450	900	2.0	5.0	0.25	10	150	10	7.0	—	4.0	JGA
BC317	500	50	45	6.0	30	20	110	450	2.0	5.0	0.2	10	—	—	7.0	—	6.0	JGA
BC317A	500	50	45	6.0	30	20	110	220	2.0	5.0	0.2	10	—	—	7.0	—	6.0	JGA

NOTES:

- 1) Maximum at typical JEDEC conditions.
- 2) μA .

3) $V_{(BR)CES}/I_{CES}$, as applicable.

4) mA.

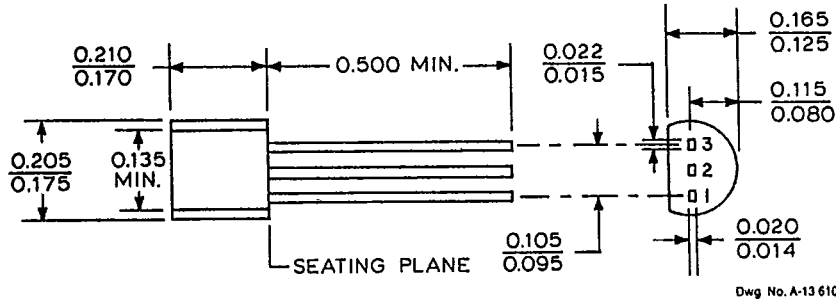
5) $V_{(BR)CER}$ at $R = 10\Omega$.

T-91-20

PACKAGE INFORMATION

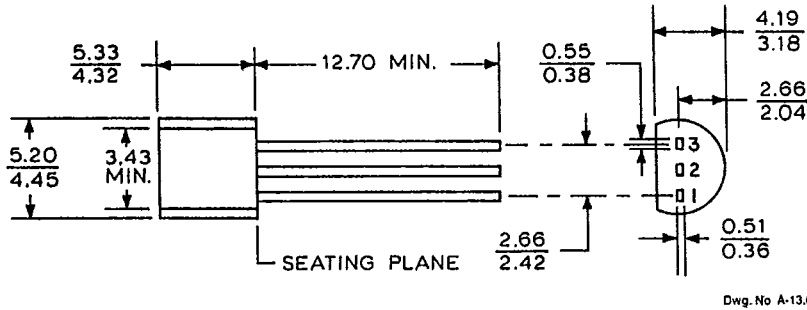
TO-226AA/STYLE CT

DIMENSIONS IN INCHES

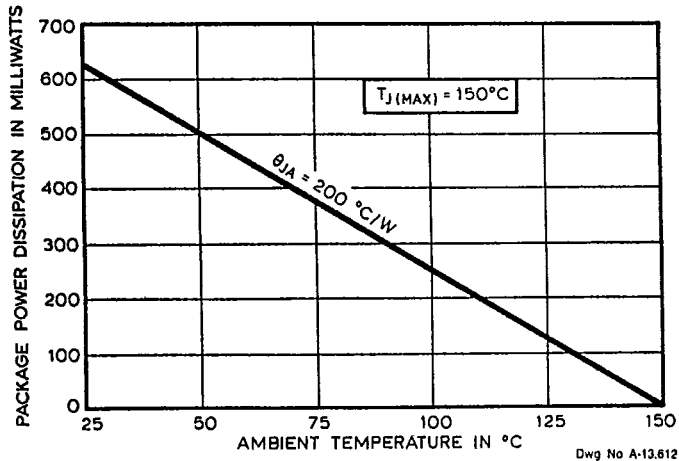


DIMENSIONS IN MILLIMETERS

Based on 1" = 25.4 mm



MAXIMUM ALLOWABLE PACKAGE POWER DISSIPATION AS A FUNCTION OF AMBIENT TEMPERATURE



CT PINOUT	
Pin	Terminal
1	Emitter
2	Base
3	Collector

3044

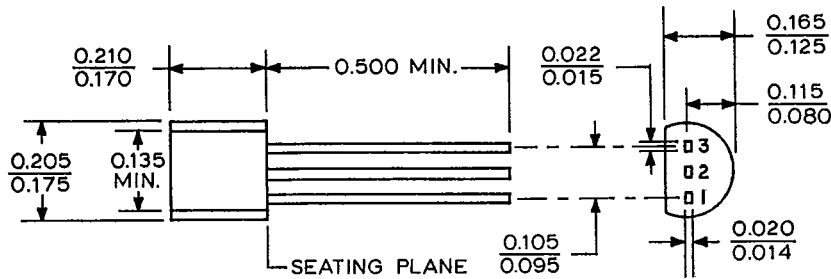
A-01

7-R

T-91-20
PACKAGE INFORMATION

TO-226AA/STYLE CZ

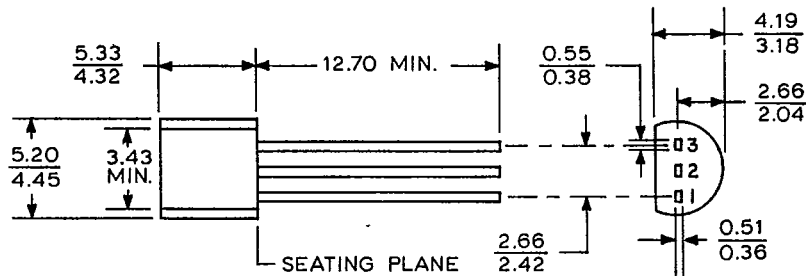
DIMENSIONS IN INCHES



Dwg No. A-13,610

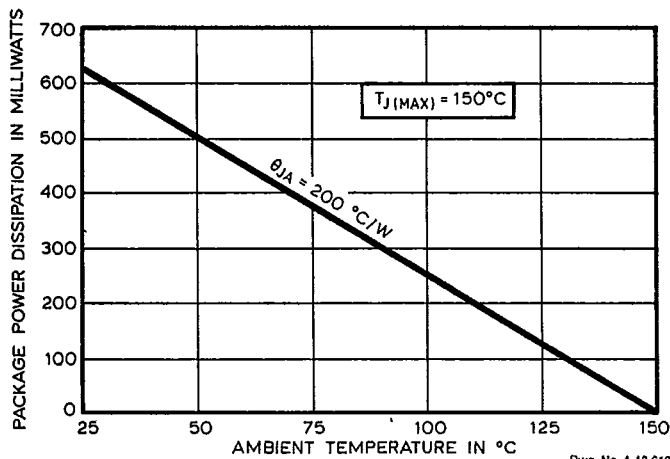
DIMENSIONS IN MILLIMETERS

Based on 1" = 25.4 mm



Dwg. No. A-13,611

MAXIMUM ALLOWABLE PACKAGE POWER DISSIPATION AS A FUNCTION OF AMBIENT TEMPERATURE



Dwg No A-13 612



CZ PINOUT

Pin	Terminal
1	Emitter
2	Collector
3	Base