

8514019 SPRAGUE, SEMICONDUCTORS/ICS

93D 03596 D

T-27-90

PLASTIC-CASE BIPOLAR TRANSISTORS

PNP Transistors

'2N' and 'TP' 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 <sup>1</sup> (dB)	Process
					Max. @ $V_{CB}$ (nA)	Max. @ $V_{CB}$ (V)	$h_{FE}$ Min.	$h_{FE}$ Max.	@ $I_C$ (mA)	@ $V_{CE}$ (V)	Max. @ $I_C$ (V)	@ $I_C$ (mA)	Min. @ $I_C$ (MHz)	@ $I_C$ (mA)				
2N5087	100	50	50	—	50	35	250	800	0.1	5.0	0.3	10	40	0.5	4.0	—	2.0	BXE
TP5138	100	30	30	5.0	50	20	50	800	0.1	10	0.3	10	30	0.5	7.0	—	—	BXE
TP5139	200	20	20	5.0	50 <sup>3</sup>	15	30	—	0.1	10	0.2	10	300	10	5.0	200	—	BTB
2N5142	500	20	20	4.0	50 <sup>3</sup>	12	30	—	50	1.0	0.5	50	100	50	10	200	—	JFA
2N5221	500	15	15	3.0	100	10	30	600	50	10	0.5	150	100	20	15	—	—	JFA
2N5226	500	25	25	4.0	300	15	30	600	50	10	0.8	100	50	20	20	—	—	JFA
2N5227	100	30	30	3.0	100	10	50	700	2.0	10	0.4	10	100	10	5.0	—	—	BXE
2N5354	500	25	25	4.0	100	25	40	120	50	1.0	0.25	50	250	2.0	8.0	—	—	JFA
2N5355	500	25	25	4.0	100	25	100	300	50	1.0	0.25	50	250	2.0	8.0	—	—	JFA
2N5356	500	25	25	4.0	100	25	250	500	50	1.0	0.25	50	250	2.0	8.0	—	—	JFA
2N5365	500	40	40	4.0	100	40	40	120	50	1.0	0.25	50	250	2.0	8.0	—	—	JFA
2N5366	500	40	40	4.0	100	40	100	300	50	1.0	0.25	50	250	2.0	8.0	—	—	JFA
2N5367	500	40	40	4.0	100	40	250	500	50	1.0	0.25	50	250	2.0	8.0	—	—	JFA
TP5372	500	60	30	5.0	50	40	40	120	150	10	0.3	150	150	20	10	150	—	JFA
TP5373	500	60	30	5.0	50	40	100	300	150	10	0.3	150	150	20	10	150	—	JFA
TP5374	500	60	30	5.0	50	40	200	400	150	10	0.3	150	150	20	10	175	—	JFA
TP5375	500	40	30	5.0	50	30	40	400	150	10	0.3	150	150	20	10	175	—	JFA
TP5378	500	40	30	5.0	10	30	120	—	1.0	5.0	—	—	—	—	10	—	—	JFA
TP5379	500	40	30	5.0	10	30	100	500	0.1	5.0	0.2	10	200	0.5	—	—	3.0	JFA
TP5382	200	40	40	5.0	50	30	50	—	10	1.0	0.25	10	200	10	4.5	—	5.0	BTB
TP5383	200	40	40	5.0	50	30	100	300	10	1.0	0.25	10	250	10	4.5	—	4.0	BTB
2N5400	300	130	120	5.0	50	100	40	180	10	5.0	0.2	10	100	10	6.0	—	8.0	VHB
2N5401	300	160	150	5.0	50	120	60	240	10	5.0	0.2	10	100	10	6.0	—	8.0	VHB
TP5447	500	40	25	5.0	100	20	60	300	50	5.0	0.25	50	100	50	12	—	—	JFA
TP5448	500	50	30	5.0	100	20	30	150	50	5.0	0.25	50	100	50	12	—	—	JFA
TP5811	800	35	25	5.0	100	25	60	200	2.0	2.0	0.75	500	100	50	15	—	—	JMA
TP5813	800	35	25	5.0	100	25	150	500	2.0	2.0	0.75	500	135	50	15	—	—	JMA
TP5815	800	50	40	5.0	100	25	60	120	2.0	2.0	0.75	500	100	50	15	—	—	JMA
TP5817	800	50	40	5.0	100	25	100	200	2.0	2.0	0.75	500	120	50	15	—	—	JMA
TP5819	800	50	40	5.0	100	25	150	300	2.0	2.0	0.75	500	135	50	15	—	—	JMA
TP5821	800	70	60	5.0	100	25	60	120	2.0	2.0	0.75	500	100	50	15	—	—	JMA
TP5823	800	70	60	5.0	100	25	100	200	2.0	2.0	0.75	500	120	50	15	—	—	JMA
TP5855	1000	60	60	5.0	100	40	50	300	150	10	0.4	150	100	50	15	—	—	DJC
TP5857	1000	80	80	5.0	100	60	50	300	150	10	0.4	150	100	50	15	—	—	DJC
2N5999	500	35	25	5.0	30	25	150	300	10	2.0	0.25	50	140	10	—	—	1.5	JFA
2N6009	500	35	25	5.0	30	25	250	500	10	2.0	0.25	50	140	10	—	—	1.5	JFA
2N6076	500	25	25	5.0	100	25	100	500	10	10	0.25	10	—	—	13	—	—	JFA

NOTES:  
 1) Maximum at typical JEDEC conditions.  
 2)  $\mu\text{A}$ .

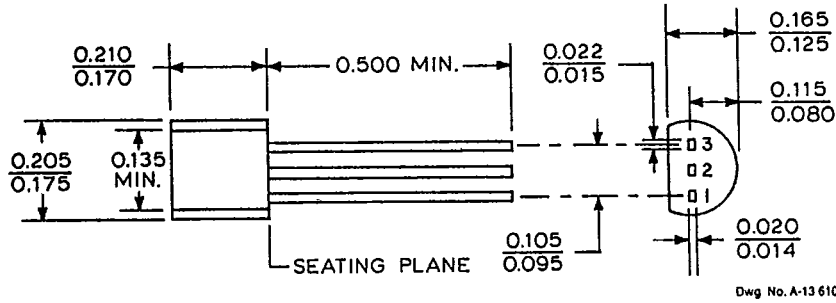
3)  $V_{(BR)CES}/I_{CES}$ , as applicable.  
 4) mA.  
 5)  $V_{(BR)CER}$  at  $R = 10\Omega$ .

T-91-20

PACKAGE INFORMATION

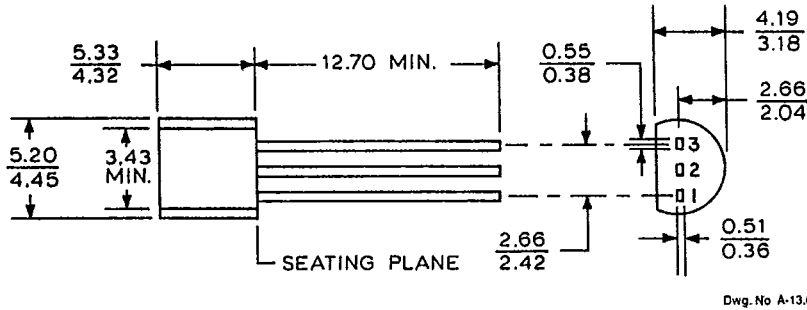
TO-226AA/STYLE CT

DIMENSIONS IN INCHES

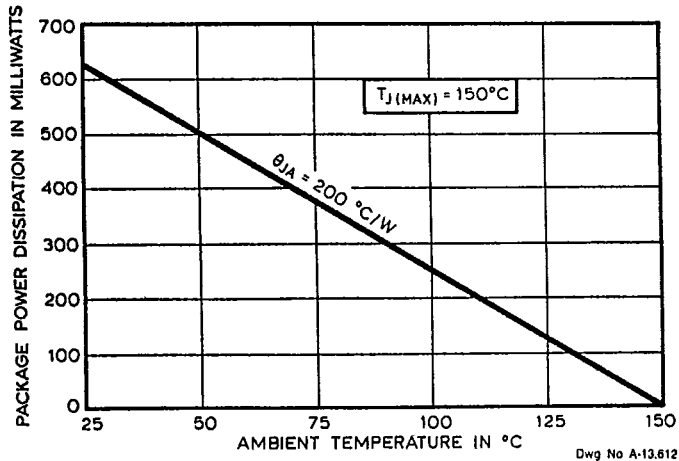


DIMENSIONS IN MILLIMETERS

Based on 1" = 25.4 mm



MAXIMUM ALLOWABLE PACKAGE POWER DISSIPATION AS A FUNCTION OF AMBIENT TEMPERATURE

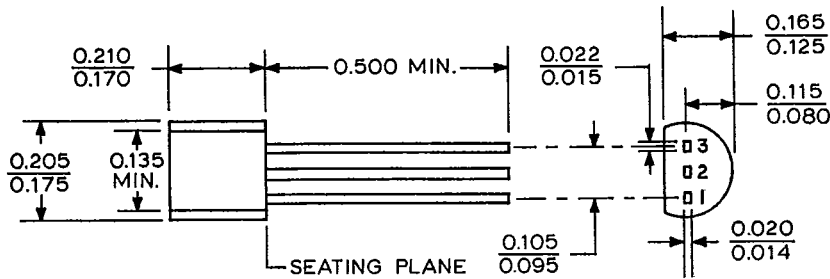


CT PINOUT	
Pin	Terminal
1	Emitter
2	Base
3	Collector

**T-91-20**  
**PACKAGE INFORMATION**

**TO-226AA/STYLE CZ**

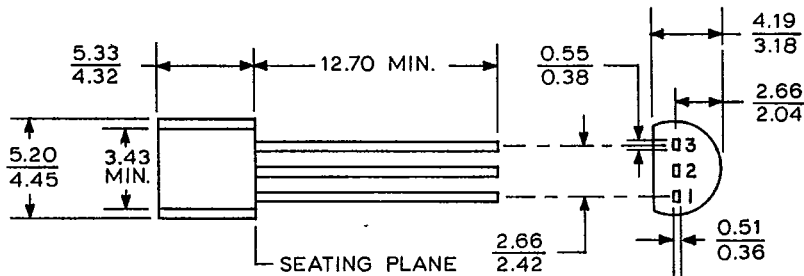
DIMENSIONS IN INCHES



Dwg No. A-13,610

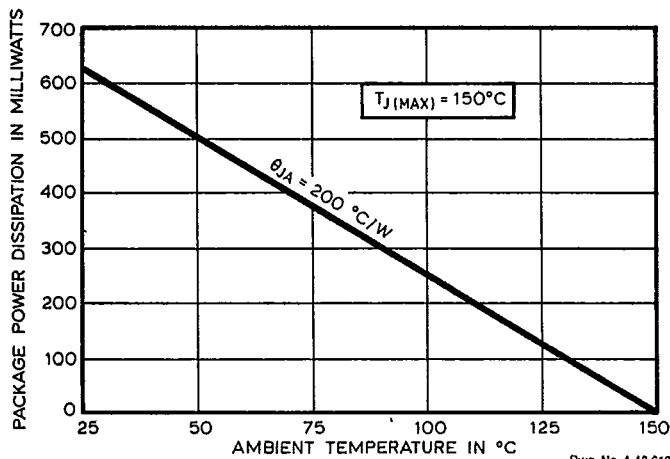
DIMENSIONS IN MILLIMETERS

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