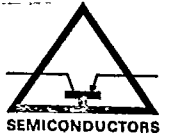


T-31-15



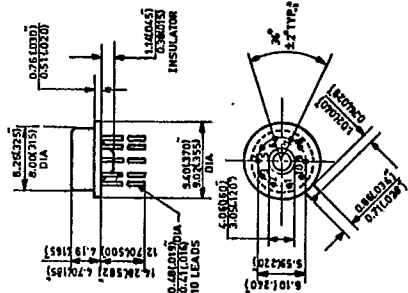
SILICON TRANSISTORS

NPN PNP			Maximum Ratings				Electrical Characteristics At T _J =25°C						
TYPE			V _{CB0}	V _{CE0}	V _{EB0}	I _c	h _{FE} @ V _{CE} =5 V I _C =2 mA min/max	V _{CE(sat)} @ I _C =10 mA I _B =0.5 mA max V	f _T typ MHz	I _{CB0} typ nA	C _{ob} typ pF	NF @ 1 KHz max dB	
P _D =0.25 W @ T _a =25°C Case: SOT-25	P _D =0.25 W @ T _a =25°C Case: TO-92	P _D =0.2 W @ T _a =25°C Case: TO-106											V
BC147	147	EBC147	50	45	6	200	110/450	0.25	300	15	25	10	
BC147A	147A	EBC147A	50	45	6	200	110/220	0.25	300	15	2.5	10	
BC147B	147B	EBC147B	50	45	6	200	200/450	0.25	300	15	2.5	10	
BC148	148	EBC148	30	20	5	200	110/800	0.25	300	15	2.5	10	
BC148A	148A	EBC148A	30	20	5	200	110/220	0.25	300	15	2.5	10	
BC148B	148B	EBC148B	30	20	5	200	200/450	0.25	300	15	2.5	10	
BC148C	148C	EBC148C	30	20	5	200	420/800	0.25	300	15	2.5	10	
BC149	149	EBC149	30	20	5	200	200/800	0.25	300	15	2.5	4	
BC149B	149B	EBC149B	30	20	5	200	200/450	0.25	300	15	2.5	4	
BC149C	149C	EBC149C	30	20	5	200	420/800	0.25	300	15	2.5	4	
BC157	157	EBC157	50	45	5	200	75/260*	0.3	150	100	4	10	
BC157A	157A	EBC157A	50	45	5	200	125/260*	0.3	150	100	4	10	
BC157B	157B	EBC157B	50	45	5	200	240/500*	0.3	150	100	4	10	
BC158	158	EBC158	30	25	5	200	125/500*	0.3	150	100	4	10	
BC158A	158A	EBC158A	30	25	5	200	125/260*	0.3	150	100	4	10	
BC158B	158B	EBC158B	30	25	5	200	240/500*	0.3	150	100	4	10	
BC159	159	EBC159	25	20	5	200	125/500*	0.3	150	100	4	4	
BC159A	159A	EBC159A	25	20	5	200	125/260*	0.3	150	100	4	4	
BC159B	159B	EBC159B	25	20	5	200	240/500*	0.3	150	100	4	4	

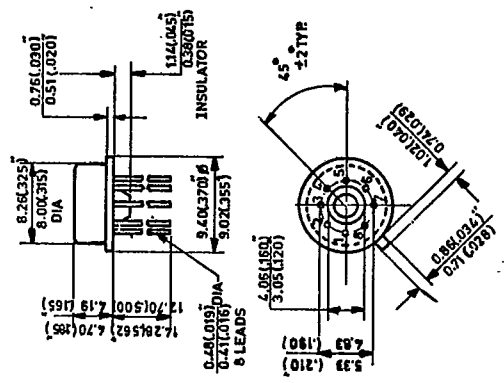
* Small signal current gain at 1 KHz

		Maximum Ratings				Electrical Characteristics At T _J =25°C							
TYPE	P _D T _a =25°C	V _{CB0}	V _{CE0}	V _{EB0}	I _c	h _{FE} @ V _{CE} =5V I _C =2 mA		V _{CE(sat)} @ I _C =10 mA I _B =0.5 mA max V	f _T (typ) MHz	I _{CB0} (typ) nA	C _{ob} (typ) pF	NF max dB	Case
NPN PNP	W	V	V	V	mA	min	max						
BC182	0.3	60	50	5	100	125*	500*	0.25	150	15	5	10	TO-92
BC182A	0.3	60	50	5	100	125*	260*	0.25	150	15	5	10	TO-92
BC182B	0.3	60	50	5	100	240*	500*	0.25	150	15	5	10	TO-92
BC183	0.3	45	30	5	100	125*	900*	0.25	150	15	5	10	TO-92
BC183A	0.3	45	30	5	100	125*	260*	0.25	150	15	5	10	TO-92
BC183B	0.3	45	30	5	100	240*	500*	0.25	150	15	5	10	TO-92
BC183C	0.3	45	30	5	100	450*	900*	0.25	150	15	5	10	TO-92
BC184	0.3	45	30	5	100	240*	900*	0.25	150	15	5	10	TO-92
BC184B	0.3	45	30	5	100	240*	500*	0.25	150	15	5	10	TO-92
BC184C	0.3	45	30	5	100	450*	900*	0.25	150	15	5	10	TO-92
BC212	0.3	60	50	5	200	60*	400*	0.25	200	15	10	10	TO-92
BC212A	0.3	60	50	5	200	100*	300*	0.25	200	15	10	10	TO-92
BC212B	0.3	60	50	5	200	200*	400*	0.25	200	15	10	10	TO-92
BC213	0.3	45	30	5	200	80*	600*	0.25	200	15	10	10	TO-92
BC213A	0.3	45	30	5	200	100*	300*	0.25	200	15	10	10	TO-92
BC213B	0.3	45	30	5	200	200*	400*	0.25	200	15	10	10	TO-92
BC213C	0.3	45	30	5	200	350*	600*	0.25	200	15	10	10	TO-92
BC214	0.3	45	30	5	200	140*	600*	0.25	200	15	10	4	TO-92
BC214A	0.3	45	30	5	200	100*	300*	0.25	200	15	10	4	TO-92
BC214B	0.3	45	30	5	200	200*	400*	0.25	200	15	10	4	TO-92
BC214C	0.3	45	30	5	200	350*	600*	0.25	200	15	10	4	TO-92
BC237	0.3	50	45	6	100	125*	500*	0.25	150	50	4.5	10	TO-92
BC237A	0.3	50	45	6	100	125*	260*	0.25	150	50	4.5	10	TO-92
BC237B	0.3	50	45	6	100	240*	500*	0.25	150	50	4.5	10	TO-92
BC238	0.3	30	20	5	100	125*	900*	0.25	150	50	4.5	10	TO-92
BC238A	0.3	30	20	5	100	125*	260*	0.25	150	50	4.5	10	TO-92
BC238B	0.3	30	20	5	100	240*	500*	0.25	150	50	4.5	10	TO-92
BC238C	0.3	30	20	5	100	450*	900*	0.25	150	50	4.5	10	TO-92
BC239	0.3	30	20	5	100	240*	900*	0.25	150	50	4.5	10	TO-92
BC239B	0.3	30	20	5	100	240*	500*	0.25	150	50	4.5	10	TO-92
BC239C	0.3	30	20	5	100	450*	900*	0.25	150	50	4.5	10	TO-92

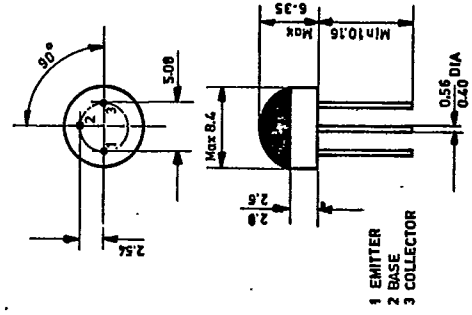
TO-96



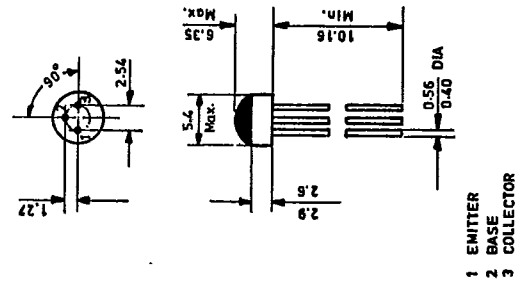
TO-99



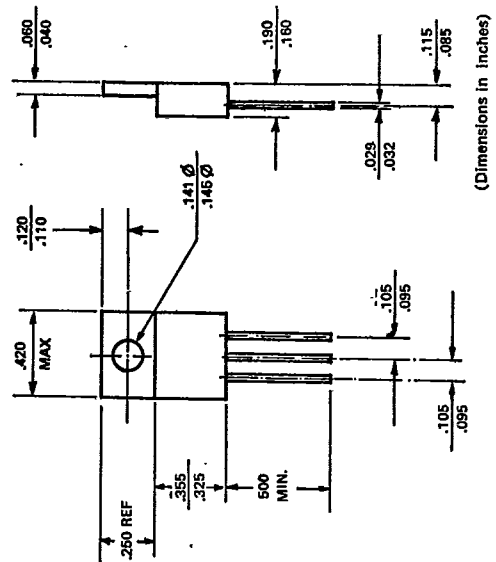
TO-105



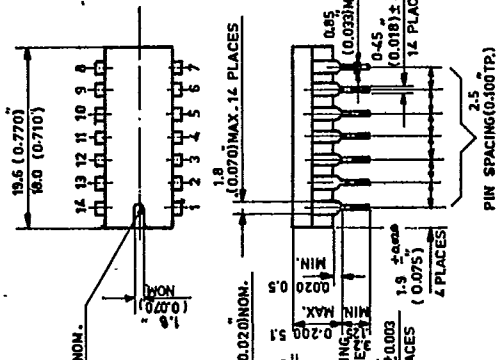
TO-106



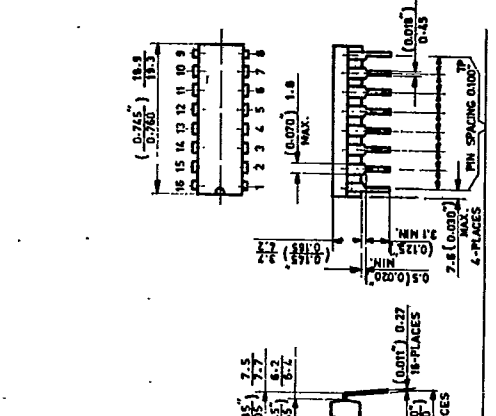
TO-220



14 pin DIP



16 pin DIP



Note : Dimensions in mm unless otherwise specified