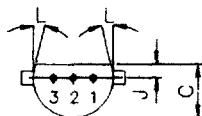


DIM	MIN	MAX
A	4,32	5,33
B	4,45	5,20
C	3,18	4,19
D	0,41	0,55
E	0,35	0,50
F	—	0,55
G	1,14	1,40
H	—	2,54
K	12,70	—
L	5 DEG	

ALL DIMENSIONS ARE IN M.M.



PIN CONFIGURATION AVAILABLE IN TO-237

CDIL Code Style	PIN 1	PIN 2	PIN 3
TO-237	Emitter	Base	Collector
TO-237-1	Base	Collector	Emitter
TO-237-2	Collector	Base	Emitter

TO-237 Plastic Package Transistors (NPN)

Maximum Ratings							Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)													
Type No.	V _{CE0} (V) Min	V _{CEO} (V) Min	V _{EB0} (V) Min	P _D (W) @ Tc=25°C	I _C (A)	I _{CM} (A)	I _{CBO} (μA) Max	V _{CB} (V)	h _{FE} @ Min Max	I _C & V _{CE} (mA) (V) 50 250 500	V _{CE(SAT)} (V) & V _{BE(SAT)} (V) Max Min Max	I _C @ (mA) 500 1000	C _{ob} (pF) Typ Max	f _T (MHz) Min Typ Max	t(off) (ns) Max	CDIL Case Style				
2N6705	60	45	5	0.75	1.5		0.1	60	40 250 500	2 2 2	0.5 1	500 1000		50 400 200		TO-237-1				
2N6706	80	60	5	0.75	1.5		0.1	80	40 250 500	2 2 2	0.5 1	500 1000		50 400 200		TO-237-1				
2N6707	100	80	5	0.75	1.5		0.1	100	40 250 500	2 2 2	0.5 1	500 1000		50 400 200		TO-237-1				
2N6711	160	160	7	0.75	0.5		0.05	100	15 200 30	1 10 10				40 200 10		TO-237-1				
2N6712	250	250	7	0.75	0.5		0.05	200	15 200 30	1 10 10				40 200 10		TO-237-1				
2N6713	300	300	7	0.75	0.5		0.05	250	15 200 30	1 10 10				40 200 10		TO-237-1				
2N6714	40	30	5	0.75	1		0.1	40	55 100 250	1 1 1000	0.5	100		50 500 50		TO-237-2				

Maximum Ratings							Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)														
Type No.	V _{CBO} (V) Min	V _{CEO} (V) Min	V _{EB0} (V) Min	P _D (W) @Tc=25°C	I _C (A)	I _{CM} (A)	I _{CBO} (μA) Max	V _{CB} (V)	h _{FE} Min	β Max	I _C & (mA)	V _{CE} (V)	V _{CE(SAT)} (V) & Max	V _{BE(SAT)} (V) Max	I _C @ (mA)	C _{ob} (pF) Typ	f _T (MHz) Min	β Typ	I _C (mA) Max	t _{off} (ns) Max	CDIL Case Style
2N6715	50	40	5	0.75	1.5		0.1	50	55 60 50	10 100 250	1 1 1000	1	0.5		1000		50	400	50		TO-237-2
2N6716	60	60	5	0.75	1.5		0.1	40	80 50 20	50 250 500	1 1 1	1	0.35		250		50	500	50		TO-237-2
2N6717	80	80	5	0.75	1		0.1	60	80 50 20	50 250 500	1 1 1	1	0.35		250		50	500	200		TO-237-2
2N6718	100	100	5	0.75	1		0.1	80	80 50 20	50 250 500	1 1 1	1	0.35		350		50	500	200		TO-237-2
2N6719	300	300	7	0.75	0.5		0.1	200	25 40 40	1 10 200	10 10 30	10					30	300	15		TO-237-2
2N6731	100	80	5	0.75	1		0.1	80	100 100	10 300	2 2	2	0.35		350		50	500	200		TO-237-2
2N6733	200	200	6	0.75	0.5		0.1	160	25 40	1 200	10 10	10	2		20		50	200	10		TO-237-2
2N6734	250	250	6	0.75	0.5		0.1	200	25 40	1 200	10 10	10	2				50	200	10		TO-237-2
2N6735	300	300	6	0.75	0.5		0.1	260	25 40	1 200	10 10	10					50	200	10		TO-237-2
CIL857	200	200	6	0.9	0.5		0.05	150	70 70 50	1 400 30	10 10 10	10	0.5	1	50	7	80		10		TO-237-1
CIL857GR	200	200	6	0.9	0.5		0.05	150	70 200 50	1 400 30	10 10 10	10	0.5	1	50	7	80		10		TO-237-1
CIL857O	200	200	6	0.9	0.5		0.05	150	70 70 50	1 140 30	10 10 10	10	0.5	1	50	7	80		10		TO-237-1
CIL857Y	200	200	6	0.9	0.5		0.05	150	70 120 50	1 240 30	10 10 10	10	0.5	1	50	7	80		10		TO-237-1
CIL858	250	250	6	0.9	0.5		0.05	200	70 70 50	1 400 30	10 10 10	10	0.5	1	50	7	80		10		TO-237-1
CIL858GR	250	250	6	0.9	0.5		0.05	200	70 200 50	1 400 30	10 10 10	10	0.5	1	50	7	80		10		TO-237-1
CIL858O	250	250	6	0.9	0.5		0.05	200	70 70 50	1 140 30	10 10 10	10	0.5	1	50	7	80		10		TO-237-1
CIL858Y	250	250	6	0.9	0.5		0.05	200	70 120 50	1 240 30	10 10 10	10	0.5	1	50	7	80		10		TO-237-1
CIL859	300	300	6	0.9	0.5		0.05	250	70 70 70	1 400 30	10 10 10	10	0.5	1	50	7	80		10		TO-237-1

Maximum Ratings							Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)														
Type No.	V _{CEO} (V) Min	V _{CE0} (V) Min	V _{EB0} (V) Min	P _D (W) @ Tc=25°C	I _C (A)	I _{CM} (A)	I _{CEO} (μA) Max	V _{CB} (V)	h _{FE} @ Min Max	I _C & (mA)	V _{CE} (V)	V _{CE(SAT)} (V) & Max Min	V _{BE(SAT)} (V) Max	I _C @ (mA)	C _{ob} (pF) Typ Max	f _t (MHz) Min	β Typ	I _C (mA) Max	t(off) (ns) Max	CDIL Case Style	
CIL859GR	300	300	6	0.9	0.5		0.05 250		70 200 50		1 10 10 30		0.5	1	50	7	80		10		TO-237-1
CIL859O	300	300	6	0.9	0.5		0.05 250		70 70 50		1 10 10 30		0.5	1	50	7	80		10		TO-237-1
CIL859Y	300	300	6	0.9	0.5		0.05 250		70 120 50		1 10 10 30		0.5	1	50	7	80		10		TO-237-1
CIL2229	200	150	5	0.75	0.05		0.1 200	70	240	10	5	0.5	1	10	4	5	120	10		TO-237-1	
CIL2229O	200	150	5	0.75	0.05		0.1 200	70	140	10	5	0.5	1	10	4	5	120	10		TO-237-1	
CIL2229Y	200	150	5	0.75	0.05		0.1 200	120	240	10	5	0.5	1	10	4	5	120	10		TO-237-1	
CIL2230	200	160	5	0.75	0.1		0.1 200	120 80	400	10 50	10 10	0.5		50	7	50		10		TO-237-1	
CIL2230A	200	180	5	0.8	0.1		0.1 200	120 80	400	10 50	10 10	0.5		50	7	50		10		TO-237-1	
CIL2230AGR	200	180	5	0.8	0.1		0.1 200	200 80	400	10 50	10 10	0.5		50	7	50		10		TO-237-1	
CIL2230AY	200	180	5	0.8	0.1		0.1 200	120 80	240	10 50	10 10	0.5		50	7	50		10		TO-237-1	
CIL2230GR	200	160	5	0.75	0.1		0.1 200	200 80	400	10 50	10 10	0.5		50	7	50		10		TO-237-1	
CIL2230Y	200	160	5	0.75	0.1		0.1 200	120 80	240	10 50	10 10	0.5		50	7	50		10		TO-237-1	
CIL2328A	30	30	5	1	1.5		0.1 30	100	320	500	2	2		1500	30		120	500		TO-237-1	
CIL2328AO	30	30	5	1	1.5		0.1 30	100	200	500	2	2		1500	30		120	500		TO-237-1	
CIL2328AY	30	30	5	1	1.5		0.1 30	100	300	500	2	2		1500	30		120	500		TO-237-1	
CIL2331	80	60	8	1	0.7		0.1 60	40	240	50	2	0.7	1.2	500	8	30	50	50		TO-237-1	
CIL2331O	80	60	8	1	0.7		0.1 60	40	140	50	2	0.7	1.2	500	8	30	50	50		TO-237-1	
CIL2331Y	80	60	8	1	0.7		0.1 60	120	240	50	2	0.7	1.2	500	8	30	50	50		TO-237-1	
CIL2482	300	300	7	0.9	0.1		1 240	20 30		4 20	10 10	1	1	10	3	50		20		TO-237-1	
CIL2655	50	50	5	0.75	1.5	2	1 50	70 40	240	500 1500	2 2	0.5		1000	30		100	500		TO-237-1	
CIL2655O	50	50	5	0.75	1.5	2	1 50	70 40	140	500 1500	2 2	0.5		1000	30		100	500		TO-237-1	
CIL2655Y	50	50	5	0.75	1.5	2	1 50	120 40	240	500 1500	2 2	0.5		1000	30		100	500		TO-237-1	
CN100	60	50	5	0.75	1		0.05 40	40	300	150	10	0.6		150			80			TO-237	
CN100A	60	50	5	0.75	1		0.05 40	40	120	150	10	0.6		150			80			TO-237	
CN100B	60	50	5	0.75	1		0.05 40	100	300	150	10	0.6		150			80			TO-237	

Maximum Ratings							Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)															
Type No.	V _{CEO} (V) Min	V _{CE0} (V) Min	V _{EB0} (V) Min	P ₀ (W) @ Tc=25°C	I _C (A)	I _{CM} (A)	V _{CEO} (μA) Max	V _{CE} (V)	h _{FE} @		I _C & (mA)	V _{CE} (V)	V _{CE(SAT)} (V) & (V) Max Min		V _{BE(SAT)} (V) Max	I _C @ (mA)	C _{ob} (pF) Typ Max		f _T (MHz) Min Typ Max	I _C (mA)	I(off) (ns) Max	CDIL Case Style
CSC1573	250	250	5	1	0.07		2	12	30	220	5	10	1.2		50		10	50		10		TO-237-1
CSC1573A	300	300	7	1	0.07		2	12	30	220	5	10	1.2		50		8	50		10		TO-237-1
CSC1573AP	300	300	7	1	0.07		2	12	30	100	5	10	1.2		50		8	50		10		TO-237-1
CSC1573AQ	300	300	7	1	0.07		2	12	60	150	5	10	1.2		50		8	50		10		TO-237-1
CSC1573AR	300	300	7	1	0.07		2	12	100	220	5	10	1.2		50		8	50		10		TO-237-1
CSC1573P	250	250	5	1	0.07		2	12	30	100	5	10	1.2		50		10	50		10		TO-237-1
CSC1573Q	250	250	5	1	0.07		2	12	60	150	5	10	1.2		50		10	50		10		TO-237-1
CSC1573R	250	250	5	1	0.07		2	12	100	220	5	10	1.2		50		10	50		10		TO-237-1
CSC2330	300	300	6	0.9	0.1		0.1	200	40	240	20	10	0.5		10	4		50				TO-237-1
CSC23300	300	300	6	0.9	0.1		0.1	200	70	140	20	10	0.5		10	4		50				TO-237-1
CSC2330R	300	300	6	0.9	0.1		0.1	200	40	80	20	10	0.5		10	4		50				TO-237-1
CSC2330Y	300	300	6	0.9	0.1		0.1	200	120	240	20	10	0.5		10	4		50				TO-237-1
CSC2331	80	60	6	1	0.7		0.1	60	40	240	50	2	0.7	1.2	500	8	30	50	50			TO-237-1
CSC23310	80	60	6	1	0.7		0.1	60	70	140	50	2	0.7	1.2	500	8	30	50	50			TO-237-1
CSC2331R	80	60	6	1	0.7		0.1	60	40	80	50	2	0.7	1.2	500	8	30	50	50			TO-237-1
CSC2331Y	80	60	6	1	0.7		0.1	60	120	240	50	2	0.7	1.2	500	8	30	50	50			TO-237-1
CSC2383	160	160	6	0.9	1		1	150	60	320	200	5	1.5		500		20	20	200			TO-237-1
CSC23830	160	160	6	0.9	1		1	150	100	200	200	5	1.5		500		20	20	200			TO-237-1
CSC2383R	160	160	6	0.9	1		1	150	60	120	200	5	1.5		500		20	20	200			TO-237-1
CSC2383Y	160	160	6	0.9	1		1	150	160	320	200	5	1.5		500		20	20	200			TO-237-1
CSD468	25	20	5	0.9	1		1	20	85	240	500	2	0.5		800		22	190	500			TO-237-1
CSD468B	25	20	5	0.9	1		1	20	85	170	500	2	0.5		800		22	190	500			TO-237-1
CSD468C	25	20	5	0.9	1		1	20	120	240	500	2	0.5		800		22	190	500			TO-237-1
CTN368		20	5		1		10	25	50 85 60	375 500 1000	5 1 1	10	0.5		1000	27		60	10			TO-237
CTN391	200	200	6	0.75	0.5		0.1	160	25 40		1 10	10 10	2		2	20		5	50			TO-237
CTN392	250	250	6	0.75	0.5		0.1	200	25 40		1 10	10 10	2		2	20		5	50			TO-237
CTN393	300	300	6	0.75	0.5		0.1	200	25 40		1 10	10 10	2		2	20		5	50			TO-237
CTN635	45	45	5	0.75	1	1.5	10	30	25 40 25	250	5 150 500	2 2 2	0.5	1		1	7		130	1000		TO-237
CTN637	60	60	5	0.75	1	1.5	10	30	40	160	0.15	2	0.5	1		1	7		130	1000		TO-237

Maximum Ratings							Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)																
Type No.	V _{CB0} (V) Min	V _{CEO} (V) Min	V _{EBO} (V) Min	P _D (W) @ Tc=25°C	I _C (A)	I _{CM} (A)	I _{CB0} (μA) Max	V _{CB} (V)	h _{FE} @		I _C & (mA)	V _{CE} (V)	V _{CE(SAT)} (V) & (V) Max Min		V _{BE(SAT)} (V) Max	I _C @ (mA)	C _{ob} (pF) Typ Max		f _t (MHz) Min Typ Max	I _C (mA)	t(off) (ns) Max	CDIL Case Style	
CTN639	100	80	5	0.75	1	1.5	10	30	25 40 25		5 160 500	2 2 2	0.5	1		1	7		130	10		TO-237	
*MPSW13	30	30	10	1	1		0.1	30	5 10		10 100	5 5	1.5			100		125		10		TO-237-2	
TN368		20	5				10	25	50 85 60		5 375 1000	10 1 1	0.5			1000	27		60	10		TO-237-2	
TN391	200	200	6	0.75	0.5		0.1	160	25 40		1 10	10 10	2		2	20		2	50	10		TO-237	
TN392	250	250	8	0.75	0.5		0.1	200	25 40		1 10	10 10	2		2	20		2	50	10		TO-237	
TN393	300	300	8	0.75	0.5		0.1	200	25 40		1 10	10 10	2		2	20		2	50	10		TO-237	
TN635	45	45	5	0.75	1		0.1	30	40 25	250	150 500	2 2	0.5			500			130			TO-237-2	
TN637	60	60	5	0.75	1		0.1	30	40 25	160	150 500	2 2	0.5			500			130			TO-237-2	
TN639	100	80	5	1.75	1		0.1	30	40 25	160	150 500	2 2	0.5			500			130			TO-237-2	
TN2017	60	60	8	0.75	0.5		10	30	35 50 20		10 200 1000	10 10 10										TO-237-2	
TN2102	120	65	7	0.75	0.5		0.01	60	10 20 35 40 25 10	120	0.01 0.1 10 120 500 1000	10 10 10 10 10 10	0.5		1.1	150		15	60	50		TO-237-2	
TN2218A	75	40	6	0.75	0.6		0.01	60	25 20 40 35 25 20		500 150 150 10 1 0.1	10 1 10 10 10 10	0.3 1	0.6 2	1.2 500		8	250		20		TO-237-2	
TN2219	60	30	5	0.75	0.6		0.01	50	30 50 100 75 50 35		500 150 300 150 10 0.1	10 1 10 10 10 10	0.4 1.6		1.3 2.6	150 500		8	250		20		TO-237-2
TN2219A	75	40	6	0.75	0.6		0.01	60	40 50 100 75 50 35		500 150 300 150 10 0.1	10 1 10 10 10 10	0.3 1	0.6 2	1.2 500		8	300		20		TO-237-2	
TN2270	60	45	7	0.75	0.5		0.05	60	30 50		1 200	10 10	0.9		1.2	150		15	100		50		TO-237-2
TN3019	140	80	7	0.75	0.5		0.01	90	50 90 100 50 15		1 10 300 500 1000	10 10 10 10 10	0.2 0.5		1.1 500		12	100		50		TO-237-2	

* hFE value are K.

Maximum Ratings							Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)																
Type No.	V _{CB0} (V) Min	V _{CEO} (V) Min	V _{EB0} (V) Min	P _D (W) @ Tc=25°C	I _C (A)	I _{CM} (A)	I _{CB0} (μA) Max	V _{CB} (V)	h _{FE} @		I _C & V _{CE} (mA) (V)		V _{CE(SAT)} (V) & V _{BE(SAT)} (V)		I _C @ (mA)	C _{ob} (pF)		f _i @ (MHz)			I _C (mA)	t(off) (ns)	CDIL Case Style
TN3020	140	80	7	0.75	0.5		0.01	90	30	100	1	10	0.2		1.1	150	12		80		50		TO-237-2
									40	120		10	10	0.5		500							
									40	120	150	10											
									30	100	500	10											
									15		1000	10											
TN3053	60	40	5	0.75	0.5		0.25	30	25		150	2.5	1.4		1.7	150	15		100		50		TO-237-2
									50	250	150	10											
TN3742	300	300	7	0.75	0.5		0.2	200	10		3	10	0.75		1	10	3		30		10		TO-237-2
									15		10	10	1	1.2	30								
									20	200	30	10											
									20		50	20											