



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 _{CB0} (V) Min	V _{CE0} (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 _T (MHz)	t _{off} (ns)	CDIL Case Style		
									Min Max		Max Min Max		Typ Max	Min Typ Max	Max			
2N6705	60	45	5	0.75	1.5		0.1	60	40	50 2	0.5 1	500 1000		50	400 200	TO-237-1		
2N6706	80	60	5	0.75	1.5		0.1	80	40	50 2	0.5 1	500 1000		50	400 200	TO-237-1		
2N6707	100	80	5	0.75	1.5		0.1	100	40	50 2	0.5 1	500 1000		50	400 200	TO-237-1		
2N6711	160	160	7	0.75	0.5		0.05	100	15	1 10				40	200 10	TO-237-1		
2N6712	250	250	7	0.75	0.5		0.05	200	15	1 10				40	200 10	TO-237-1		
2N6713	300	300	7	0.75	0.5		0.05	250	15	1 10				40	200 10	TO-237-1		
2N6714	40	30	5	0.75	1		0.1	40	55	10 1	0.5	100		50	500 50	TO-237-2		

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} @ Min	I _C & V _{CE} (mA) Max	V _{CE(SAT)} (V) & V _{BE(SAT)} (V) Max	V _{BE(SAT)} (V) Min	I _C (mA) @ Max	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 1		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		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		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		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				30	300	15		TO-237-2	
2N6731	100	80	5	0.75	1		0.1	80	100 100	10 300	2 2		350		50	500	200		TO-237-2	
2N6733	200	200	6	0.75	0.5		0.1	160	25 40	1 200	10 10		20		50	200	10		TO-237-2	
2N6734	250	250	6	0.75	0.5		0.1	200	25 40	1 200	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				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		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		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		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		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		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		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		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		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		50	7	80		10		TO-237-1	

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} @ Min Max	I _C & (mA)	V _{CE} (V)	V _{CE(SAT)} (V) & Max	V _{BE(SAT)} (V) Min Max	I _C @ (mA) Max	C _{ob} (pF) Typ Max	f _t (MHz) Min Typ Max	I _C (mA)	t(off) (ns) Max	CDIL Case Style	
CIL859GR	300	300	6	0.9	0.5		0.05	250	70 200 50	400	1 10 10 30	10	0.5	1	50	7	80	10	TO-237-1	
CIL859O	300	300	6	0.9	0.5		0.05	250	70 70 50	140	1 10 10 30	10	0.5	1	50	7	80	10	TO-237-1	
CIL859Y	300	300	6	0.9	0.5		0.05	250	70 120 50	240	1 10 10 30	10	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
CIL2223O	200	160	5	0.75	0.1		0.1	200	120 80	400	10 10 50	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 10 50	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 10 50	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 10 50	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 10 50	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 10 50	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	150	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	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	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	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)	V _{CE0} (V)	V _{EB0} (V)	P ₀ (W)	I _C (A)	I _{CM} (A)	I _{CEO} (μA)	V _{CS} (V)	h _{FE} @		I _C & V _{CE} (mA, V)	V _{CE(SAT)} (V) & V _{BE(SAT)} (V)		I _C @ (mA)	C _{ob} (pF)		f _T (MHz)		I _C (mA)	t _{off} (ns)	CDIL Case Style	
	Min	Min	Min	@Tc=25°C			Max		Min	Max		Max	Min	Max	Typ	Max	Min	Typ	Max	Max		
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		5 10	0.5		1000	27		60		10			TO-237
									85	375	500 1											
									60		1000 1											
CTN391	200	200	6	0.75	0.5		0.1	160	25		1 10	2	2	20			5		50			TO-237
									40		10 10											
CTN392	250	250	6	0.75	0.5		0.1	200	25		1 10	2	2	20			5		50			TO-237
									40		10 10											
CTN393	300	300	6	0.75	0.5		0.1	200	25		1 10	2	2	20			5		50			TO-237
									40		10 10											
CTN635	45	45	5	0.75	1	1.5	10	30	25		5 2	0.5	1	1	7		130		1000			TO-237
									40	250	150 2											
									25		500 2											
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)	V _{CEO} (V)	V _{EBO} (V)	P _D (W)	I _C (A)	I _{CM} (A)	I _{CB0} (μA)	V _{CB} (V)	h _{FE}	@	I _C & V _{CE} (mA) (V)	V _{CE(SAT)} (V) & (V)	V _{BE(SAT)} (V)	I _C @ (mA)	C _{ob} (pF)	f _t (MHz)	@	I _C (mA)	t(off) (ns)	CDIL Case Style	
	Min	Min	Min	@ Tc=25°C			Max		Min	Max		Max	Min	Max	Typ	Max	Typ	Max	Max		
CTN639	100	80	5	0.75	1	1.5	10	30	25		5	2	0.5	1		7					TO-237
*MPSW13	30	30	10	1	1		0.1	30	5		10	5	1.5								TO-237-2
									10		100	5									
TN368		20	5				10	25	50		5	10	0.5		1000	27					TO-237-2
									85	375	500	1									
									60		1000	1									
TN391	200	200	6	0.75	0.5		0.1	160	25		1	10	2		2	20		2	50	10	TO-237
									40		10	10									
TN392	250	250	8	0.75	0.5		0.1	200	25		1	10	2		2	20		2	50	10	TO-237
									40		10	10									
TN393	300	300	8	0.75	0.5		0.1	200	25		1	10	2		2	20		2	50	10	TO-237
									40		10	10									
TN635	45	45	5	0.75	1		0.1	30	40	250	150	2	0.5		500				130		TO-237-2
									25		500	2									
TN637	60	60	5	0.75	1		0.1	30	40	160	150	2	0.5		500				130		TO-237-2
									25		500	2									
TN639	100	80	5	1.75	1		0.1	30	40	160	150	2	0.5		500				130		TO-237-2
									25		500	2									
TN2017	60	60	8	0.75	0.5		10	30	35		10	10									TO-237-2
									50	200	200	10									
									20		1000	10									
TN2102	120	65	7	0.75	0.5		0.01	60	10	120	0.01	10	0.5		1.1	150		15	60	50	TO-237-2
									20		0.1	10									
									35		10	10									
									40	120	150	10									
									25		500	10									
									10		1000	10									
TN2218A	75	40	6	0.75	0.6		0.01	60	25		500	10	0.3	0.6	1.2	150		8	250	20	TO-237-2
									20		150	1	1		2	500					
									40	120	150	10									
									35		10	10									
									25		1	10									
									20		0.1	10									
TN2219	60	30	5	0.75	0.6		0.01	50	30		500	10	0.4		1.3	150		8	250	20	TO-237-2
									50		150	1	1.6		2.6	500					
									100	300	150	10									
									75		10	10									
									50		1	10									
									35		0.1	10									
TN2219A	75	40	6	0.75	0.6		0.01	60	40		500	10	0.3	0.6	1.2	150		8	300	20	TO-237-2
									50		150	1	1		2	500					
									100	300	150	10									
									75		10	10									
									50		1	10									
									35	300	0.1	10									
TN2270	60	45	7	0.75	0.5		0.05	60	30		1	10	0.9		1.2	150		15	100	50	TO-237-2
									50	200	150	10									
TN3019	140	80	7	0.75	0.5		0.01	90	50		1	10	0.2		1.1	150		12	100	50	TO-237-2
									90		10	10	0.5			500					
									100	300	150	10									
									50		500	10									
									15		1000	10									

* 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 & (mA)	V _{CE} (V)	V _{CE(SAT)} (V) & V _{BE(SAT)} (V)	I _C @ (mA)	C _{ob} (pF) Typ	f _i (MHz) Min	I _C (mA) Typ	t(off) (ns) Max	CDIL Case Style				
TN3020	140	80	7	0.75	0.5		0.01	90	30	100	1	10	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	15	100		50		TO-237-2				
									50	250	150							10	1.4	1.7	150
TN3742	300	300	7	0.75	0.5		0.2	200	10		3	10	3	30		10		TO-237-2			
									15		10	10							0.75	1	10
									20	200	30	10							1	1.2	30
									20		50	20									