

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 _{CBO} (μA) Max	V _{CB} (V) @	I _{CES} (μA) Max	V _{CE} (V) @	h _{FE} Min	h _{FE} Max	I _C & V _{CE} (A) (A)	V _{CE} (V) (V)	V _{CE(SAT)} (V) Max	V _{BE(SAT)} (V) Min	V _{BE(SAT)} (V) Max	I _C (A) (A)	C _{ob} (pF) Max	C _{ob} (pF) Typ	f _t (MHz) Min	f _t (MHz) Typ	f _t (MHz) Max	I _C (mA) (mA)
2N6107	80	70	5	40	7			* 100	75	30	150	2	4	3.5			7	250		10			500
2N6109	60	50	5	40	7			* 100	60	30	150	2.5	4	3.5			7	250		10			500
2N6111	40	30	5	40	7			* 100	40	30	150	3	4	3.5			7	250		10			500
2N6124	45	45	5	40	4	100	45	* 100	45	25	100	1.5	2	0.6			1.5			2.5			1000
2N6125	60	60	5	40	4	100	60	* 100	60	25	100	1.5	2	0.6			1.5			2.5			1000
2N6126	80	80	5	40	4	100	80	* 100	80	20	80	1.5	2	0.6			1.5			2.5			1000
2N6489	50	40	5	75	15			* 500	45	20	150	5	4	1.3			5			5			1000
2N6490	70	60	5	75	15			* 500	65	20	150	5	4	1.3			5			5			1000
2N6491	90	80	5	75	15			* 500	85	20	150	5	4	1.3			5			5			1000
BD202	60	45	5	60	8			\$\$200	30	30		3	2	1			3			7			300
BD204	60	60	5	60	8			\$\$200	30	30		2	2	1			3			7			300
BD240	55	45	5	30	2			200	45	40		0.2	4	0.7			1			3			200
BD240A	70	60	5	30	2			200	60	40		0.2	4	0.7			1			3			200
BD240B	90	80	5	30	2			200	80	40		0.2	4	0.7			1			3			200
BD240C	115	100	5	30	2			200	100	40		0.2	4	0.7			1			3			200
BD242	## 55	45	5	40	3			200	45	25		1	4	1.2			3			3			500
BD242A	## 70	60	5	40	3			200	60	25		1	4	1.2			3			3			500
BD242B	## 90	80	5	40	3			200	80	25		1	4	1.2			3			3			500
BD242C	## 115	100	5	40	3			200	100	25		1	4	1.2			3			3			500
BD244	45	45	5	65	6			400	45	30		0.3	4	1.5			6			3			500
BD244A	60	60	5	65	6			400	60	30		0.3	4	1.5			6			3			500
BD244B	80	80	5	65	6			400	80	30		0.3	4	1.5			6			3			500
BD244C	100	100	5	65	6			400	100	30		0.3	4	1.5			6			3			500
BD534	45	45	5	50	8	100	45	100	45	20		0.01	5	0.8			2			3			500

V_{CES}
* I_{CEX}
\$\$ I_{CEO}

Maximum Ratings						Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)														
Type No.	V _{CEO} (V)	V _{CE0} (V)	V _{EBO} (V)	P _D (W)	I _C (A)	I _{CBO} (μA)	V _{CB} (V)	I _{CES} (μA)	V _{CE} (V)	h _{FE}	I _C (A)	V _{CE} (V)	V _{CE(SAT)} (V)	V _{BE(SAT)} (V)	I _C (A)	C _{ob} (pF)	f _t (MHz)	I _C (mA)		
	Min	Min	Min	@Tc=25°C		Max	⊖	Max	⊖	Min	Max		Max	Min	Max	Max	Typ	Min	Typ	Max
BD534J	45	45	5	50	8	100	45	100	45	20		0.01	5		2			3		500
										40		0.5	2							
										30	75	2	2							
										15		3	2							
BD534K	45	45	5	50	8	100	45	100	45	20		0.01	5		2			3		500
										40		0.5	2							
										40	100	2	2							
										20		3	2							
BD536	60	60	5	50	8	100	60	100	60	20		0.01	5		2			3		500
										40		0.5	2							
										25		2	2							
BD536J	60	60	5	50	8	100	60	100	60	20		0.01	5		2			3		500
										40		0.5	2							
										30	75	2	2							
										15		3	2							
BD536K	60	60	5	50	8	100	60	100	60	20		0.01	5		2			3		500
										40		0.5	2							
										40	100	2	2							
										20		3	2							
BD538	80	80	5	50	8	100	80	100	80	15		0.01	5		2			3		500
										40		0.5	2							
										15		2	2							
BD538J	80	80	5	50	8	100	80	100	80	15		0.01	5		2			3		500
										40		0.5	2							
										30	75	2	2							
										15		3	2							
BD538K	80	80	5	50	8	100	80	100	80	15		0.01	5		2			3		500
										40		0.5	2							
										40	100	2	2							
										20		3	2							
BD906	45	45	5	90	15	500	45	**1000	45	40	250	0.5	4	1		5		3		500
										15	150	5	4	3		2.5	10			
										5		10	4							
BD908	60	60	5	90	15	500	60	**1000	30	40	250	0.5	4	1		5		3		500
										15	150	5	4	3		2.5	10			
										5		10	4							
BD910	80	80	5	90	15	500	80	**1000	40	40	250	0.5	4	1		5		3		500
										15	150	5	4	3		2.5	10			
										5		10	4							
BD912	100	100	5	90	15	500	100	**1000	50	40	250	0.5	4	1		5		3		500
										15	150	5	4	3		2.5	10			
										5		10	4							
BD950	60	60	5	40	5	50	60			40		0.5	4	1		2			3	500
										20		2	4							
BD952	80	80	5	40	5	50	80			40		0.5	4	1		2			3	500
										20		2	4							
BD954	100	100	5	40	5	50	100			40		0.5	4	1		2			3	500
										20		2	4							
BD956	120	120	5	40	5	50	120			40		0.5	4	1		2			3	500
										20		2	4							
BDX34	45	45	5	70	10	1000	45	**500	23	750		4	3	2.5		4	300		3	1000
BDX34A	60	60	5	70	10	1000	60	**500	30	750		4	3	2.5		4	300		3	1000
BDX34B	80	80	5	70	10	1000	80	**500	40	750		3	3	2.5		3	300		3	1000
BDX34C	100	100	5	70	10	1000	100	**500	50	750		3	3	2.5		3	300		3	1000
BDX54	45	45	5	60	8	200	45			750		3	3	2		2.5	3	200		

** I_{CEO}

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 _{CB0} (μA) Max	V _{CE} (V) @ I _C	I _{CES} (μA) Max	V _{CE} (V) @ I _{CES}	h _{FE}	I _C & V _{CE} (A, V)	V _{CE(SAT)} (V) Max	V _{BE(SAT)} (V) Min Max	I _C (A)	C _{ob} (pF) Max Typ	f _i (MHz) Min Typ	I _C (mA) @ f _i		
BDX54A	60	60	5	60	8	200	60			750	3 3	2	2.5 3	200					
BDX54B	80	80	5	60	8	200	80			750	3 3	2	2.5 3	200					
BDX54C	100	100	5	60	8	200	100			750	3 3	2	2.5 3	200					
BDX78	100	80	5	60	8			**200	30	30	1 2	1 1.5	3 2.0			7	300		
C45C8	#70	60	5	30	4			10	70	40 20	120 1	0.2 1	0.5	1	125	40	20		
CSA614	80	55	5	25	3	50	50			40	240	0.5 5	0.5	1					
CSA614O	80	55	5	25	3	50	50			70	140	0.5 5	0.5	1					
CSA614R	80	55	5	25	3	50	50			40	80	0.5 5	0.5	1					
CSA614Y	80	55	5	25	3	50	50			120	240	0.5 5	0.5	1					
CSA748	70	50	5	15	2	1	40			30 50	220	0.1 1	5 5	1	1.5 2	120	500		
CSA748P	70	50	5	15	2	1	40			30 50	100	0.1 1	5 5	1	1.5 2	120	500		
CSA748Q	70	50	5	15	2	1	40			30 80	160	0.1 1	5 5	1	1.5 2	120	500		
CSA748R	70	50	5	15	2	1	40			30 120	200	0.1 1	5 5	1	1.5 2	120	500		
CSA940	150	150	5	25	1.5	10	120			40	140	0.5 10	1.5	0.5	55	4	500		
CSA968	160	160	5	25	1.5	1	160			70	240	0.1 5	1.5	0.5	30	100	100		
CSA968A	180	180	5	25	1.5	1	160			70	240	0.1 5	1.5	0.5	30	100	100		
CSA968AO	180	180	5	25	1.5	1	160			70	140	0.1 5	1.5	0.5	30	100	100		
CSA968AY	180	180	5	25	1.5	1	160			120	240	0.1 5	1.5	0.5	30	100	100		
CSA968B	200	200	5	25	1.5	1	160			70	240	0.1 5	1.5	0.5	30	100	100		
CSA968BO	200	200	5	25	1.5	1	160			70	140	0.1 5	1.5	0.5	30	100	100		
CSA968BY	200	200	5	25	1.5	1	160			120	240	0.1 5	1.5	0.5	30	100	100		
CSA968O	160	160	5	25	1.5	1	160			70	140	0.1 5	1.5	0.5	30	100	100		
CSA968Y	160	160	5	25	1.5	1	160			120	240	0.1 5	1.5	0.5	30	100	100		
CSA1012	60	50	5	25	5	1	50			70 30	240	1 3	1 1	0.4	1.2 3	170	60 1000		
CSA1012O	60	50	5	25	5	1	50			70 30	140	1 3	1 1	0.4	1.2 3	170	60 1000		
CSA1012Y	60	50	5	25	5	1	50			120 30	240	1 3	1 1	0.4	1.2 3	170	60 1000		
CSB507	60	60	5	30	3	100	20			40 40	320	0.1 1	2 2	1	2	8	500		
CSB507C	60	60	5	30	3	100	20			40 40	80	0.1 1	2 2	1	2	8	500		
CSB507D	60	60	5	30	3	100	20			40 60	120	0.1 1	2 2	1	2	8	500		
CSB507E	60	60	5	30	3	100	20			40 100	200	0.1 1	2 2	1	2	8	500		
CSB507F	60	60	5	30	3	100	20			40 160	320	0.1 1	2 2	1	2	8	500		
CSB546	200	150	5	25	2	50	150			40	240	0.4 10	1	0.5		5	400		

** I_{CEO} #V_{CES}

Maximum Ratings					Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)															
Type No.	V _{CEO} (V)	V _{CEO} (V)	V _{EB0} (V)	P _D (W)	I _C (A)	I _{CEO} (μA)	V _{CB} (V)	I _{CES} (μA)	V _{CE} (V)	h _{FE}	I _C & V _{CE}	V _{CE(SAT)}	V _{BE(SAT)}	I _C	C _{ob}	f _t	I _C			
	Min	Min	Min	@Tc=25°C	(A)	Max	(V)	Max	(V)	Min	Max	Max	Min	(A)	Max	Typ	Min	Max		
CSB546O	200	150	5	25	2	50	150			70	140	0.4	10	1		0.5		5	400	
CSB546R	200	150	5	25	2	50	150			40	80	0.4	10	1		0.5		5	400	
CSB546Y	200	150	5	25	2	50	150			120	240	0.4	10	1		0.5		5	400	
CSB834	60	60	7	30	3	100	60			60	200	0.5	5	1		3	150	9	500	
CSB834O	60	60	7	30	3	100	60			20		3	5	1		3	150	9	500	
CSB834Y	60	60	7	30	3	100	60			20		3	5	1		3	150	9	500	
CSB856	50	50	4	25	3	10	20			35	200	1	4	1.2		2	90	10	500	
CSB856A	50	50	4	25	3	10	20			35	70	0.1	4	1.5		2	90	10	500	
CSB856B	50	50	4	25	3	10	20			35		0.1	4	1.2		2	90	10	500	
CSB856C	50	50	4	25	3	10	20			60	120	1	4	1.2		2	90	10	500	
CSB857	70	50	5	40	4	1	50			35		0.1	4	1		2		15	500	
CSB857B	70	50	5	40	4	1	50			60	120	1	4	1		2		15	500	
CSB857C	70	50	5	40	4	1	50			35		0.1	4	1		2		15	500	
CSB857D	70	50	5	40	4	1	50			100	200	1	4	1		2		15	500	
CSB858	70	60	5	40	4	1	50			35		0.1	4	1		2		15	500	
CSB858B	70	60	5	40	4	1	50			60	120	1	4	1		2		15	500	
CSB858C	70	60	5	40	4	1	50			35		0.1	4	1		2		15	500	
CSB858D	70	60	5	40	4	1	50			100	200	1	4	1		2		15	500	
CSB1626	110	110	5	30	6	100	110			160	320	1	4	1		2		15	500	
CSB1626OP	110	110	5	30	6	100	110			35		0.1	4	1		2		15	500	
MJE2955T	70	60	5	75	10	1000	70			5000	30000	5	4	2.5		3	5	110	100	500
MJE15029	120	120	5	50	8	10	120	**100	120	5000	20000	5	4	2.5		3	5	110	100	500
MJE15031	150	150	5	50	8	10	150	**100	150	20	100	4	4	1.1		4		2	500	
										5		10	4	8		10				
										40		0.1	2	0.5		1		30	500	
										40		2	2							
										40		3	2							
										20		4	2							
										40		0.1	2	0.5		1		30	500	
										40		2	2							
										40		3	2							
										20		4	2							

** I_{CEO}

Maximum Ratings						Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)															
Type No.	V _{CEO} (V)	V _{CEO} (V)	V _{EBO} (V)	P _D (W)	I _C (A)	I _{CBO} (μA)	V _{CB} (V)	I _{CES} (μA)	V _{CE} (V)	h _{FE}	β	I _C (A)	V _{CE} (V)	V _{CE(SAT)} (V)	V _{BE(SAT)} (V)	I _C (A)	C _{ob} (pF)	f _t (MHz)	β	I _C (mA)	
	Min	Min	Min	@Tc=25°C		Max	@ (V)	Max	@ (V)	Min	Max			Max	Min	Max	Max	Typ	Min	Typ	Max
TIP30	40	40	5	30	1			200	40	40		0.2	4	0.7		1		3			200
TIP30A	60	60	5	30	1			200	60	40		0.2	4	0.7		1		3			200
TIP30B	80	80	5	30	1			200	80	40		0.2	4	0.7		1		3			200
TIP30C	100	100	5	30	1			200	100	40		0.2	4	0.7		1		3			200
TIP32	40	40	5	40	3			200	40	10	50	3	4	1.2		3		3			500
TIP32A	60	60	5	40	3			200	60	10	50	3	4	1.2		3		3			500
TIP32B	80	80	5	40	3			200	80	10	50	3	4	1.2		3		3			500
TIP32C	100	100	5	40	3			200	100	10	50	3	4	1.2		3		3			500
TIP42	40	40	5	65	6			100	40	15	75	3	4	1.5		6		3			500
TIP42A	60	60	5	65	6			200	60	15	75	3	4	1.5		6		3			500
TIP42B	80	80	5	65	6			400	80	15	75	3	4	1.5		6		3			500
TIP42C	100	100	5	65	6			400	100	15	75	3	4	1.5		6		3			500
TIP105	60	60	5	80	8	50	60	**50	30	1000	20000	3	4	2		3	300				
TIP106	80	80	5	80	8	50	80	**50	40	1000	20000	3	4	2		3	300				
TIP107	100	100	5	80	8	50	100	**50	40	1000	20000	3	4	2		3	300				
TIP115	60	60	5	50	2	1000	30			1000		1	4	2.5		2					
TIP116	80	80	5	50	2	1000	40			1000		1	4	2.5		2					
TIP117	100	100	5	50	2	1000	50			1000		1	4	2.5		2					
TIP125	60	60	5	65	5	200	60			1000		0.5	3	2		3	300				
TIP126	80	80	5	65	5	200	80			1000		3	3	2		3	300				
TIP127	100	100	5	65	5	200	100			1000		3	3	2		3	300				
TIP135	60	60	5	70	8	200	60	**500	30	500		1	4	2		4					
TIP136	80	80	5	70	8	200	80	**500	40	500		1	4	2		4					
TIP137	100	100	5	70	8	200	100	**500	50	500		1	4	2		4					

** I_{CEO}