

# TO-202

## PLASTIC PACKAGE TRANSISTORS (NPN)

Maximum Ratings						Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)										
Type No.	V <sub>CBO</sub> (V)	V <sub>ECO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>CBO</sub> (μA)	V <sub>CB</sub> (V)	h <sub>FE</sub>		I <sub>C</sub> & V <sub>CE</sub> (mA) (V)	V <sub>CE(Sat)</sub> & V <sub>BE(Sat)</sub> (V)	I <sub>C</sub> (mA)	C <sub>ob</sub> (pF)	f <sub>T</sub> (MHz)	I <sub>C</sub> (mA)	C <sub>DIL</sub> Case Style		
	Min	Min	Min	Max		Min	Max	Max	Min	Max	Max	Min	Max			
2SC2068	300	300	5.0	1.0	240	20	30	0.5	10	10	4	75	98	20	TO-202	
2SC20680	300	300	5.0	1.0	240	20	70	0.5	10	10	4	75	90	20	TO-202	
2SC2068R	300	300	5.0	1.0	240	20	30	0.5	10	10	4	75	90	20	TO-202	
2SC2068Y	300	300	5.0	1.0	240	20	120	0.5	10	10	4	75	90	20	TO-202	
BF859	300	300	5.0	0.1	250	26		30.0	10	30		90	90	15	TO-202	
CSC2611	300	300	5.0			30	200	20.0	20	20	4	50		20	TO-202	
CSC2621	300	300	6.5	1.0	200	40	200	10.0	10	1.0	5	50		10	TO-202	
CSC2621C	300	300	6.5	1.5	200	40	80	10.0	10	1.0	5	50		10	TO-202	
CSC2621D	300	300	6.5	1.0	200	60	120	10.0	10	1.0	5	50		10	TO-202	
CSC2621E	300	300	6.5	1.0	200	100	200	10.0	10	1.0	5	50		10	TO-202	
BF858	250	250	5.0	0.1	200	26		30.0	10	30		90		15	TO-202	
BF857	160	160	5.0	0.1	100	26		30.0	10	30		90		15	TO-202	
BD817	100	80	5.0			40	250	150.0	2	0.6	1000	3			TO-202	
BD829	100	80	5.0	0.1	30	25	40	5.0	2	0.5	500	250	50		TO-202	
BD843	100	80	5.0			25	25	5.0	2	1000		125			TO-202	
CSC1212A	80	80	5.0	5.0	50	60	20	50.0	4	1.5	1000	30	100	160	30	TO-202
BD815	60	60	5.0		40	40	250	150.0	2	0.6	1000	3			TO-202	
BD827	60	60	5.0	0.1	30	25	40	5.0	2	0.5	500	250	50		TO-202	
BD841	60	60	5.0			25	25	5.0	2	0.8	1000	125			TO-202	
CSC1212	50	50	5.0	5.0	50	60	20	50.0	4	1.5	1000	30	100	160	30	TO-202
CSC1212B	50	50	5.0	5.0	50	60	20	50.0	4	1.5	1000	30	100	160	30	TO-202

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	Min	Min	Min	Max		Min	Max			Max	Min	Max		Max	Min	Max		
CSC1212C	50	50	5.0	5.0	50	100	200	50.0	4	1.5			1000	30	100	160	30	TO-202
						20		1000.0	4									
BD813	45	45	5.0			40	250	150.0	2	0.6			1000		3			TO-202
BD825	45	45	5.0	0.1	30	25		5.0	2	0.5			500			250	50	TO-202
						40	250	150.0	2									
						25		500.0	2									
BD839	45	45	5.0	0.1	30	25		5.0	2	0.8			1000		125			TO-202
						25		1000.0	2									
						40	250	150.0	2									