

**SOT-23 - Power Transistor and Darlingtontons**



**Maximum Ratings** Electrical Characteristics (at Ta = 25°C unless otherwise specified)

Part #	Polarity	V <sub>CBO</sub> (V) Min	V <sub>CEO</sub> (V) Min	V <sub>EBO</sub> (V) Min	P <sub>D</sub> (W) @ 25 °C	I <sub>C</sub> (A)	I <sub>CBO</sub> (uA) Max	@ V <sub>CB</sub>	h <sub>FE</sub> Min	h <sub>FE</sub> Max	@ I <sub>C</sub> (A)	V <sub>CE</sub> (V)	V <sub>CE(SAT)</sub> (V) Max	V <sub>BE(SAT)</sub> (V) min - max	@ I <sub>C</sub> (A)	f <sub>T</sub> (MHz) Min	@ I <sub>C</sub> (mA)
*BC807	PNP	50 <sup>1</sup>	45	5	0.25	0.5	100	20	100	600	100	1	0.70		500		10
*BC808	PNP	30 <sup>1</sup>	25	5	0.25	0.5	100	20	100	600	100	1	0.70		500		10
*BC817	NPN	50 <sup>1</sup>	45	5	0.25	0.5	100	20	100	600	100	1	0.70		500		10
*BC818	NPN	30 <sup>1</sup>	25	5	0.25	0.5	100	20	100	600	100	1	0.70		500		10
*BC846	NPN	80	65	6	0.25	0.1	15	30	110	450	2	5	0.60		100		10
*BC847	NPN	50	45	6	0.25	0.1	15	30	110	800	2	5	0.60		100		10
*BC848	NPN	30	30	5	0.25	0.1	15	30	110	800	2	5	0.60		100		10
*BC849	NPN	30	30	5	0.25	0.1	15	30	200	800	2	5	0.60		100		10
*BC850	NPN	50	45	5	0.25	0.1	15	30	200	800	2	5	0.60		100		10
*BC856	PNP	80	65	5	0.25	0.1	15	30	125	475	2	5	0.65		100		10
*BC857	PNP	50	45	5	0.25	0.1	15	30	125	800	2	5	0.65		100		10
*BC858	PNP	30	30	5	0.25	0.1	15	30	125	800	2	5	0.65		100		10
*BC859	PNP	30	30	5	0.25	0.1	15	30	125	800	2	5	0.65		100		10
*BC860	PNP	50	45	5	0.25	0.1	15	30	125	800	2	5	0.65		100		10
BF820	NPN	300	300 <sup>2</sup>	5	0.25	0.05	10	200	50		25	20	0.60		30		10
BF821	PNP	300	300 <sup>2</sup>	5	0.25	0.05	10	200	50		25	20	0.80		30		10
BF822	NPN	250	250	5	0.25	0.05	10	200	50		25	20	0.60		30		10
BF823	PNP	250	250	5	0.25	0.05	10	200	50		25	20	0.80		30		10
BF840	NPN	40	40	4	0.25	0.025	100	20	67	222	1	10				380	1
BF841	NPN	40	40	4	0.25	0.025	100	20	36	125	1	10				380	1

<sup>1</sup>h<sub>FE</sub> <sup>1</sup>V<sub>CES</sub> <sup>2</sup>V<sub>CER</sub> <sup>3</sup>I<sub>CEX</sub> <sup>4</sup>MIN <sup>5</sup>MAX

Part #	Polarity	V <sub>CBO</sub> (V) Min	V <sub>CEO</sub> (V) Min	V <sub>EBO</sub> (V) Min	P <sub>D</sub> (W)	I <sub>C</sub> (A)	I <sub>CBO</sub> (uA) Max	@ V <sub>CB</sub> (V)	h <sub>FE</sub> Min	h <sub>FE</sub> Max	@ I <sub>C</sub> (A)	V <sub>CE</sub> (V)	V <sub>CE(SAT)</sub> (V) Max	V <sub>BE(SAT)</sub> (V) Mn-Mx	@ I <sub>C</sub> (mA)	f <sub>T</sub> (MHz)	@ I <sub>C</sub> (mA)
CMBT918	NPN	30	15	3	0.225	0.35	50	15	20		3	1	0.40	- 1.00 <sup>4</sup>	10	-	4
CMBT2222A	NPN	75	40	6	0.25	0.6	10	60	100	300	150	10	0.30	0.60 <sup>4</sup> 1.20 <sup>5</sup>	150	-	20
CMBT2907A	PNP	60	60	5	0.25	0.6	10	50	100	300	150	10	0.40	- 1.30 <sup>5</sup>	150	-	50
CMBT3904	NPN	60	40	6	0.25	0.2	50 <sup>3</sup>	30	100	300	10	1	0.20	0.65 <sup>4</sup> 0.85 <sup>5</sup>	10	-	10
CMBT3906	PNP	40	40	5	0.25	0.2	50 <sup>3</sup>	30	100	300	10	1	0.25	0.65 <sup>4</sup> 0.85 <sup>5</sup>	10	-	10
CMBT4401	NPN	60	40	6	0.25	0.6	100 <sup>3</sup>	35	100	300	150	1	0.40	0.75 <sup>4</sup> 0.95 <sup>5</sup>	150	-	20
CMBT4403	PNP	40	40	5	0.25	0.6	100 <sup>3</sup>	35	100	300	150	2	0.40	0.75 <sup>4</sup> 0.95 <sup>5</sup>	150	-	20
CMBT5401	PNP	160	150	5	0.25	0.5	50	120	60	240	10	5	0.20	- 1.00 <sup>5</sup>	10	300 <sup>5</sup>	10
CMBT5551	NPN	180	160	6	0.25	0.6	50	120	80	250	10	5	0.15	- 1.00 <sup>5</sup>	10	300 <sup>5</sup>	10
CMBTA05	NPN	60	60	4	0.25	0.5	100	60	100	-	100	1	0.25	-	100	-	10
CMBTA06	NPN	80	80	4	0.25	0.5	100	80	100	-	100	1	0.25	-	100	-	10
CMBTA13	NPN	30	30 <sup>1</sup>	10	0.25	0.3	100	30	10k	-	100	5	1.50	-	100	-	10
CMBTA14	NPN	30	30 <sup>1</sup>	10	0.25	0.3	100	30	20k	-	100	5	1.50	-	100	-	10
CMBTA42	NPN	300	300	6	0.25	0.5	100	200	40	-	10	10	0.50	- 0.90 <sup>5</sup>	20	-	10
CMBTA55	PNP	60	60	4	0.25	0.5	100	60	100	-	100	1	0.25	-	100	-	100
CMBTA56	PNP	80	80	4	0.25	0.5	100	80	100	-	100	1	0.25	-	100	-	100
CMBTA92	PNP	300	300	5	0.25	0.5	250	200	40	-	10	10	0.50	- 0.90 <sup>5</sup>	20	-	10
CMMT451	NPN	80	60	5	0.5	1.0	100	60	50	150	150	10	0.35	- 1.10 <sup>5</sup>	150	-	50
CMMT491	NPN	80	60	5	0.5	1.0	100	60	100	300	500	5	0.25	-	500	-	50
CMMT551	PNP	80	60	5	0.5	1.0	100	60	50	150	150	10	0.35	- 1.10 <sup>5</sup>	150	-	50
CMMT591	PNP	80	60	5	0.5	1.0	100	60	100	300	500	5	0.30	-	500	-	50
CSA1162GR	PNP	50	50	5	0.15	0.15	100	50	200	400	2	6	0.30	-	100	-	1
CSA1362GR	PNP	15	15	5	0.2	0.80	100	15	200	400	100	1	0.25	-	400	120 <sup>4</sup>	10
CSC2712GR	NPN	60	50	5	0.15	0.15	100	60	200	400	2	6	0.25	-	100	-	1
CSD1306E	NPN	30	15	5	0.2	0.70	100- 0	20	400	800	150	1	0.50	-	500	250 <sup>4</sup>	150

<sup>1</sup>I<sub>CEO</sub>   <sup>2</sup>I<sub>CBO</sub>   <sup>3</sup>V<sub>CES</sub>   <sup>4</sup>I<sub>CER</sub>   <sup>5</sup>f<sub>T</sub> Typical Values