

# POWER TRANSISTORS

## NPN POWER TRANSISTORS

Type No.	Absolute Maximum Ratings						Electrical Characteristics at $T_A = 25^\circ\text{C}$														
	$P_C$ (W)	$V_{CBO}$ (V)	$V_{CEO}$ (V)	$V_{EBO}$ (V)	$I_C$ (A)	$I_B$ (A)	$I_{CBO}$ Max @ $V_{CE}$ (mA) (V)		$I_{EBO}$ Max @ $V_{EB}$ (mA) (V)		$V_{(BR)CEO}$ Min @ $I_C$ (V) (mA)		$h_{FE}$ Min @ $I_C$ @ $V_{CE}$ (A) (V)			$V_{CE(sat)}$ Max. @ $I_C$ @ $I_B$ (V) (A) (mA)			$f_T$ Typ. @ $I_C$ @ $V_{CE}$ (MHz) (A) (V)		
2SC2023	40	300	300	6	2	0.2	1	300	1	6	300	25	30	0.5	4	1	1	200	10	-0.2	12
2SC2837	100	150	150	5	10	2	0.1	150	0.1	5	150	25	30	3	4	2	5	500	70	-1	12
2SC2921	150	160	160	5	15	4	0.1	160	0.1	5	160	25	50	5	4	2	5	500	60	-2	12
2SC2922	200	180	180	5	17	5	0.1	180	0.1	5	180	25	30	8	4	2	8	800	50	-2	12
2SC3179	30	80	60	6	4	1	0.1	80	0.1	6	60	25	40	1	4	0.6	2	200	15	-0.2	12
2SC3263	130	230	230	5	15	4	0.1	230	0.1	5	230	25	40	5	4	2	5	500	60	-2	12
2SC3264	200	230	230	5	17	5	0.1	230	0.1	5	230	25	40	5	4	2	5	500	60	-2	12
2SC3284	125	150	150	5	14	3	0.1	150	0.1	5	150	25	50	5	4	2	5	500	60	-2	12
2SC3519	130	160	160	5	15	4	0.1	160	0.1	5	160	25	50	5	4	2	5	500	50	-2	12
2SC3519A		180	180					180													
2SC3678	80	900	800	7	3	1.5	0.1	800	0.1	7	800	10	10	1	4	0.5	1	200	6	-0.3	12
2SC3679	100	900	800	7	5	2.5	0.1	800	0.1	7	800	10	10	2	4	0.5	2	400	6	-0.5	12
2SC3680	120	900	800	7	7	3.5	0.1	800	0.1	7	800	10	10	3	4	0.5	3	600	6	-1	12
2SC3830	50	600	500	10	6	2	1	600	0.1	10	500	25	10	2	4	0.5	2	400	8	-0.5	12
2SC3831	100	600	500	10	10	4	1	600	0.1	10	500	25	10	5	4	0.5	5	1000	8	-1	12
2SC3832	50	500	400	10	7	2	0.1	500	0.1	10	400	25	10	3	4	0.5	3	600	10	-0.5	12
2SC3833	100	500	400	10	12	4	0.1	500	0.1	10	400	25	10	7	4	0.5	7	1400	10	-1	12
2SC3834	50	200	120	8	7	3	0.1	200	0.1	8	120	50	70	3	4	0.5	3	300	30	-0.5	12
2SC3835	70	200	120	8	7	3	0.1	200	0.1	8	120	50	70	3	4	0.5	3	300	30	-0.5	12
2SC3851	25	80	60	6	4	1	0.1	80	0.1	6	60	25	40	1	4	0.5	2	200	15	-0.2	12
2SC3851A		100	80					100													
2SC3852	25	80	60	6	3	1	0.01	80	0.1	6	60	25	500	0.5	4	0.5	2	50	15	-0.2	12
2SC3852A		100	80					100													
2SC3853	60	120	80	6	6	3	0.1	120	0.1	6	80	50	50	2	4	1.5	2	200	20	-0.5	12
2SC3854	80	160	120	6	8	3	0.1	160	0.1	6	120	50	50	3	4	1.5	3	300	20	-0.5	12
2SC3855	100	200	140	6	10	4	0.1	200	0.1	6	140	50	50	3	4	2.0	5	500	20	-0.5	12
2SC3856	130	200	180	6	15	4	0.1	200	0.1	6	180	50	50	3	4	2.0	5	500	20	-0.5	12
2SC3857	150	200	200	6	15	5	0.1	200	0.1	6	200	50	30	5	4	3.0	10	1000	20	-0.5	12
2SC3858	200	200	200	6	17	5	0.1	200	0.1	6	200	50	30	8	4	2.5	10	1000	20	-1	12
2SC3890	30	500	400	10	7	2	0.1	500	0.1	10	400	25	10	3	4	0.5	3	600	10	-0.5	12
2SC3909	100	900	800	7	5	2.5	0.1	800	0.1	7	800	10	10	1.5	4	1	1.5	300	4	-0.7	12
2SC3927	120	900	550	7	10 (15)	5	0.1	800	0.1	7	550	10	10	5	4	0.5	5	1000	6	-1	12
2SC4020	50	900	800	7	3	1.5	0.1	800	0.1	7	800	10	10	0.7	4	0.5	0.7	140	6	-0.3	12
2SC4024	35	100	50	15	10	3	0.01	100	0.01	15	50	24	300	1	4	0.5	5	100	24	-0.5	12
2SC4064	35	50	50	6	12	3	0.1	50	0.01	6	50	25	50	6	1	0.35	6	300	40	-0.5	12
2SC4065	35	60	60	6	$\pm 12$	3	0.1	60	60	6	60	25	50	6	1	0.35	6	300	40	-0.5	12
2SC4073	30	500	400	10	5(10)	2	0.1	500	0.1	10	400	25	10	2	4	0.5	2	400	10	-0.3	12

Note:  $I_C$  inside parentheses is a pulse current.

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Type No.	Absolute Maximum Ratings						Electrical Characteristics at T <sub>A</sub> = 25°C														
	P <sub>C</sub> (W)	V <sub>CB0</sub> (V)	V <sub>CE0</sub> (V)	V <sub>EB0</sub> (V)	I <sub>C</sub> (A)	I <sub>B</sub> (A)	I <sub>CEO</sub> Max @ V <sub>CB</sub> (mA)	I <sub>CEO</sub> Max @ V <sub>CE</sub> (mA)	I <sub>EBO</sub> Max @ V <sub>EB</sub> (mA)	I <sub>EBO</sub> Max @ V <sub>EB</sub> (mA)	V <sub>BE(CEO)</sub> Min @ I <sub>C</sub> (V)	V <sub>BE(CEO)</sub> Min @ I <sub>C</sub> (mA)	h <sub>FE</sub> Min @ I <sub>C</sub> @ V <sub>CE</sub> (A) (V)		V <sub>CE(sat)</sub> Max @ I <sub>C</sub> @ I <sub>B</sub> (V) (A) (mA)			f <sub>T</sub> Typ. @ I <sub>E</sub> @ V <sub>CE</sub> (MHz) (A) (V)			
2SC4130	30	500	400	10	7(14)	2	0.1	500	0.1	10	400	25	10	3	4	0.5	3	600	15	-0.5	12
2SC4131	60	100	50	15	15(25)	4	0.01	100	0.01	15	50	25	60	5	1	0.5	5	80	18	-1	12
2SC4138	80	500	400	10	10(20)	4	0.1	500	0.1	10	400	25	10	6	4	0.5	6	1200	10	-0.7	12
2SC4139	120	500	400	10	15(30)	5	0.1	500	0.1	10	400	25	10	8	4	0.5	8	1600	10	-1.5	12
2SC4140	130	500	400	10	18(36)	6	0.1	500	0.1	10	400	25	10	10	4	0.5	10	2000	10	-2	12
2SC4153	30	200	120	8	7(14)	3	0.1	200	0.1	8	120	50	70	3	4	0.5	3	300	30	-0.5	12
2SC4296	75	500	400	10	10(20)	4	0.1	500	0.1	10	400	25	10	6	4	0.5	6	1200	10	-0.7	12
2SC4297	75	500	400	10	12(24)	4	0.1	500	0.1	10	400	25	10	7	4	0.5	7	1400	10	-1	12
2SC4298	80	500	400	10	15(30)	5	0.1	500	0.1	10	400	25	10	8	4	0.5	8	1600	10	-1.5	12
2SC4299	70	900	800	7	3(6)	1.5	0.1	800	0.1	7	800	10	10	1	4	0.5	1	200	6	-0.3	12
2SC4300	75	900	800	7	5(10)	2.5	0.1	800	0.1	7	800	10	10	2	4	0.5	2	400	6	-0.5	12
2SC4301	80	900	800	7	7(14)	3.5	0.1	800	0.1	7	800	10	10	3	4	0.5	3	600	6	-1	12
2SC4302	75	900	800	7	5(10)	2.5	0.1	800	0.1	7	800	10	10	1.5	4	1.0	1.5	300	4	-0.7	12
2SC4304	35	900	800	7	3(6)	1.5	0.1	800	0.1	7	800	10	10	0.7	4	0.5	0.7	140	10	-0.3	12
2SC4327	25	50	35	6	7(12)	1	0.01	50	0.01	6	35	10	50	5	2	0.5	5	300	115	-1	12
2SC4381	25	150	150	6	2	1	0.01	150	0.01	6	150	25	60	0.7	10	1.0	0.7	70	15	-0.2	12
2SX4382		200	200					200													
2SC4385	60	120	80	6	6	3	0.01	120	0.01	6	80	50	50	2	4	1.5	2	200	20	-0.5	12
2SC4386	75	160	120	6	8	3	0.01	160	0.01	6	120	50	50	3	4	1.5	3	300	20	-0.5	12
2SC4387	80	200	140	6	10	4	0.01	200	0.01	6	140	50	50	3	4	2.0	5	500	20	-0.5	12
2SC4388	85	200	180	6	15	4	0.01	200	0.01	6	180	50	50	3	4	2.0	5	500	20	-0.5	12
2SC4418	30	500	400	10	5(10)	2	0.1	500	0.1	10	400	25	10	1.5	4	0.5	1.5	300	20	-0.3	12
2SC4434	120	500	400	10	15(30)	5	0.1	500	0.1	10	400	25	10	8	4	0.7	8	1600	10	-1.5	12
2SC4445	60	900	800	7	3(6)	1.5	0.1	800	0.1	7	800	10	10	0.7	4	0.5	0.7	140	15	-0.3	12
2SC4466	60	120	80	6	6	3	0.01	120	0.01	6	80	50	50	2	4	1.5	2	200	20	-0.5	12
2SC4467	80	160	120	6	8	3	0.01	160	0.01	6	120	50	50	3	4	1.5	3	300	20	-0.5	12
2SC4468	100	200	140	6	10	4	0.01	200	0.01	6	140	50	50	3	4	0.5	5	500	20	-0.5	12
2SC4494	25	60	40	6	3	1	0.01	60	0.01	6	40	25	500	0.5	4	0.5	1	20	40	-0.1	12
2SC4495	25	80	50	6	3	1	0.01	80	0.01	6	50	25	500	0.5	4	0.5	1	20	40	-0.1	12
2SC4503	80	100	50	15	30 (50)	5	0.01	100	0.01	15	50	25	100	15	1	0.5	15	300	20	-0.5	12
2SC4511	30	120	80	6	6	3	0.01	120	0.01	6	80	25	50	2	4	0.5	2	200	20	-0.5	12
2SC4512	50	120	80	6	6	3	0.01	120	0.01	6	80	25	50	2	4	0.5	2	200	20	-0.5	12
2SC4517	30	900	550	7	3(6)	1.5	0.1	800	0.1	7	550	10	10	1	4	0.5	1	200	6	-0.25	12
2SC4517A		1000																			
2SC4518	35	900	550	7	5(10)	2.5	0.1	800	0.1	7	550	10	10	1.8	4	0.5	1.8	360	6	-0.35	12
2SC4518A		1000																			

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	$P_C$ (W)	$V_{CBO}$ (V)	$V_{CEO}$ (V)	$V_{EBO}$ (V)	$I_C$ (A)	$I_B$ (A)	$I_{CBO}$ Max @ $V_{CB}$ (mA)	$V_{CB}$ (V)	$I_{EBO}$ Max @ $V_{EB}$ (mA)	$V_{EB}$ (V)	$V_{(BR)CEO}$ Min @ $I_C$ (V)	$I_C$ (mA)	$h_{FE}$ Min @ $I_C$ @ $V_{CE}$ (A) (V)			$V_{CE(sat)}$ Max. @ $I_C$ @ $I_B$ (V) (A) (mA)			$f_T$ Typ. @ $I_E$ @ $V_{CE}$ (MHz) (A) (V)		
2SC4546	30	600	400	7	7(14)	2	0.1	600	0.1	7	400	25	10	3	4	0.7	3	600	10	-0.5	12
2SC4557	80	900	550	7	10(20)	5	0.1	800	0.1	7	550	10	10	5	4	0.5	5	1000	-	-	-
2SC4558	30	100	80	6	6(10)	3	0.01	100	0.01	6	80	25	300	3	4	0.4	3	60	30	-0.5	12
2SC4662	30	500	400	10	5 (10)	2	0.1	500	0.1	10	400	25	10	1.5	4	0.5	1.5	300	20	-0.3	12
2SC4706	130	900	600	7	14 (28)	7	0.1	800	0.1	7	600	10	10	7	4	0.5	7	1400	6	-1.5	12
2SC4820	30	900	450	8	6(12)	2	0.1	800	0.1	8	450	10	10	2	4	0.5	2	400	12	-0.6	12
2SC4883	20	150	150	6	2	1	0.01	150	0.01	6	150	10	60	0.7	10	1.0	0.7	70	120	-0.7	12
2SC4883A		180	180					180													
2SC4886	80	150	150	5	14	3	0.1	150	0.1	5	150	25	50	5	4	2.0	5	500	60	-2	12
2SC4907	30	600	500	10	6 (12)	2	1	600	0.1	10	500	25	10	2	4	0.5	2	400	8	-0.5	12
2SC4908	35	900	800	7	3 (6)	1.5	0.1	800	0.1	7	800	10	10	0.7	4	0.5	0.7	140	6	-0.3	12

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