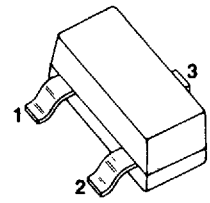
NPN TRANSISTORS



SOT-23/TO-236AB

ELECTRICAL CHARACTERISTICS at T_A = 25°C

Device Type	Marking	$V_{(BR)CBO}$ (V)	$V_{(BR)CEO}$ (V)	$V_{(BR)EBO}$ (V)	I_{CBO} Max. (nA)	I_{CBO} @ V_{CB} (V)	DC Current Gain h_{FE} Min.	DC Current Gain h_{FE} Max.	DC Current Gain @ I_C (mA)	DC Current Gain @ V_{CE} (V)	$V_{CE(sat)}$ Max. (V)	$V_{CE(sat)}$ @ I_C (mA)	f_T Min. (MHz)	f_T @ I_C (mA)	C_{ob}[1] (pF)	t_s[1] (ns)	NF[1] (dB)	Pinning 1, 2, 3
BCW31	D1	30	20	5.0	100	20	110	220	2.0	5.0	0.25	10	—	—	4.0	—	10	BEC*
BCW32	D2	30	20	5.0	100	20	200	450	2.0	5.0	0.25	10	—	—	4.0	—	10	BEC*
BCW33	D3	30	20	5.0	100	20	420	800	2.0	5.0	0.25	10	—	—	4.0	—	10	BEC*
BCW60A	AA	32[3]	32	5.0	20	32	120	220	2.0	5.0	0.35	10	125	10	4.5	—	6.0	BEC*
BCW60B	AB	32[3]	32	5.0	20	32	180	310	2.0	5.0	0.35	10	125	10	4.5	—	6.0	BEC*
BCW60C	AC	32[3]	32	5.0	20	32	250	460	2.0	5.0	0.35	10	125	10	4.5	—	6.0	BEC*
BCW60D	AD	32[3]	32	5.0	20	32	380	630	2.0	5.0	0.35	10	125	10	4.5	—	6.0	BEC*
BCW65A	EA	60[3]	32	5.0	20	32	100	250	100	1.0	—	—	100	20	12	—	10	BEC*
BCW65B	EB	60[3]	32	5.0	20	32	160	400	100	1.0	—	—	100	20	12	—	10	BEC*
BCW66F	EF	75[3]	45	5.0	20	45	100	250	100	1.0	—	—	100	20	12	—	10	BEC*
BCW66G	EG	75[3]	45	5.0	20	45	160	400	100	1.0	—	—	100	20	12	—	10	BEC*
BCW71	K1	50	45	5.0	100	20	110	220	2.0	5.0	0.25	10	—	—	4.0	—	10	BEC*
BCW72	K2	50	45	5.0	100	20	200	450	2.0	5.0	0.25	10	—	—	4.0	—	10	BEC*
BCX19	U1	50[3]	45	5.0	100	20	100	600	100	1.0	0.62	500	—	—	5.0	—	—	BEC*
BCX20	U2	30[3]	25	5.0	100	20	100	600	100	1.0	0.62	500	—	—	5.0	—	—	BEC*
BCX70G	AG	45[3]	45	5.0	20	45	120	220	2.0	5.0	0.35	10	125	10	4.5	—	6.0	BEC*
BCX70H	AH	45[3]	45	5.0	20	45	180	310	2.0	5.0	0.35	10	125	10	4.5	—	6.0	BEC*
BCX70J	AJ	45[3]	45	5.0	20	45	250	460	2.0	5.0	0.35	10	125	10	4.5	—	6.0	BEC*
BCX70K	AK	45[3]	45	5.0	20	45	380	630	2.0	5.0	0.35	10	125	10	4.5	—	6.0	BEC*
TMPT918	3B	30	15	3.0	10	15	20	—	3.0	1.0	0.4	10	600	4.0	1.7	—	—	BEC*
TMPT2221	N12	60	30	5.0	10	50	40	120	150	10	0.4	150	250	20	8.0	—	—	BEC*
TMPT2221A	N54	75	40	6.0	10	60	40	120	150	10	0.3	150	250	20	8.0	225	—	BEC*
TMPT2222	1B	60	30	5.0	10	50	100	300	150	10	0.4	150	250	20	8.0	—	—	BEC*
TMPT2222A	1P	75	40	6.0	10	60	100	300	150	10	0.3	150	250	20	8.0	225	—	BEC*

NOTES: * Reversed pinning (E-B-C) available on special order—add suffix letter 'R' to part number.

Continued next page...

1) Maximum at typical JEDEC conditions.
2) µA.
3) $V_{(BR)CES}/I_{CES}$, as applicable.
4) mA.
5) $V_{(BR)CER}$ at R = 10Ω.

NPN TRANSISTORS
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ELECTRICAL CHARACTERISTICS continued

Device Type	Marking	$V_{(BR)CBO}$ (V)	$V_{(BR)CEO}$ (V)	$V_{(BR)EBO}$ (V)	I_{CBO} Max. (nA)	@ V_{CB} (V)	DC Current Gain h_{FE} Min.	h_{FE} Max.	@ I_C (mA)	@ V_{CE} (V)	$V_{CE(sat)}$ Max. (V)	@ I_C (mA)	f_T Min. (MHz)	@ I_C (mA)	C_{ob}[1] (pF)	t_s[1] (ns)	NF[1] (dB)	Pinning 1, 2, 3
TMPT3904	1A	60	40	6.0	50	30	100	300	10	1.0	0.2	10	300	10	4.0	200	5.0	BEC*
TMPT4401	2X	60	40	6.0	100	30	100	300	150	1.0	0.4	150	250	20	6.5	225	—	BEC*
TMPT5088	1Q	35	30	—	50	20	300	900	0.1	5.0	0.5	10	—	—	4.0	—	3.0	BEC*
TMPT5089	1R	30	25	—	50	15	400	1200	0.1	5.0	0.5	10	—	—	4.0	—	2.0	BEC*
TMPT6427	1V	40	40	12	50	30	10k	100k	10	5.0	1.2	50	130	10	7	—[4]	10	BEC*
TMPTA05	1H	60	60	4.0	100	60	50	—	100	1.0	0.25	100	100	10	—	—	—	BEC*
TMPTA06	1G	80	80	4.0	100	80	50	—	100	1.0	0.25	100	100	10	—	—	—	BEC*
TMPTA14	1N	30[3]	—	10	100	30	20k	—	100	5.0	1.5	100	125	10	—	—	—	BEC*
TMPTA42	1D	300	300	6.0	100	200	40	—	30	10	0.5	20	50	10	3.0	—	—	BEC*
TMPTA43	1E	200	200	6.0	100	160	40	—	30	10	0.5	20	50	10	4.0	—	—	BEC*

NOTES: * Reversed pinning (E-B-C) available on special order—add suffix letter 'R' to part number.

1) Maximum at typical JEDEC conditions.
2) µA.
3) $V_{(BR)CES}/I_{CES}$, as applicable
4) mA.
5) $V_{(BR)CER}$ at R = 10Ω.