

Substitution Guide for Non-Listed Power Part Types

Industry Part No.	Package	NSC Part No.	Package	Industry Part No.	Package	NSC Part No.	Package
2N2102	TO-39	TN2102	TO-237	2N6411	TO-126 (rev)	MJE210	TO-126
2N2218A	TO-18	TN2218A	TO-237	2N6412	TO-126 (rev)	MJE180	TO-126
2N2219A	TO-18	TN2219A	TO-237	2N6413	TO-126 (rev)	MJE181	TO-126
2N2905	TO-18	TN2905	TO-237	2N6414	TO-126 (rev)	MJE170	TO-126
2N3019	TO-39	TN3019	TO-237	2N6415	TO-126 (rev)	MJE171	TO-126
2N3020	TO-39	TN3020	TO-237	2N6416	TO-126 (rev)	MJE241	TO-126
2N3053	TO-39	TN3053	TO-237	2N6417	TO-126 (rev)	MJE243	TO-126
2N3054	TO-66	NSP3054	TO-220	2N6418	TO-126 (rev)	MJE251	TO-126
2N3724	TO-39	TN3724	TO-237	2N6419	TO-126 (rev)	MJE253	TO-126
2N3725	TO-39	TN3725	TO-237	2N6465	TO-66	TIP41C	TO-220
2N3735	TO-39	TN3735	TO-237	2N6530	TO-220	TIP101	TO-220
2N3740	TO-66	NSP3740	TO-220	2N6531	TO-220	TIP102	TO-220
2N3741	TO-66	NSP3741	TO-220	BD575	Mot Case 199	NSP575	TO-220
2N4033	TO-39	TN4033	TO-237	BD576	Mot Case 199	NSP576	TO-220
2N4037	TO-39	TN4037	TO-237	BD577	Mot Case 199	NSP577	TO-220
2N4063	TO-37	MJE3439	TO-126	BD578	Mot Case 199	NSP578	TO-220
2N4064	TO-37	MJE3440	TO-126	BD579	Mot Case 199	NSP579	TO-220
2N5974	TO-127	NSP5974	TO-220	BD579	Mot Case 199	NSP578	TO-220
2N5975	TO-127	NSP5975	TO-220	BD580	Mot Case 199	NSP580	TO-220
2N5976	TO-127	NSP5976	TO-220	BD581	Mot Case 199	NSP581	TO-220
2N5977	TO-127	NSP5977	TO-220	BD582	Mot Case 199	NSP582	TO-220
2N5978	TO-127	NSP5978	TO-220	BD585	Mot Case 199	NSP585	TO-220
2N5979	TO-127	NSP5979	TO-220	BD586	Mot Case 199	NSP586	TO-220
2N5980	Mot Case 90	2N6489	TO-220	BD587	Mot Case 199	NSP587	TO-220
2N5981	Mot Case 90	MJE2955T	TO-220	BD588	Mot Case 199	NSP588	TO-220
2N5982	Mot Case 90	2N6491	TO-220	BD589	Mot Case 199	NSP589	TO-220
2N5983	Mot Case 90	MJE3055T	TO-220	BD590	Mot Case 199	NSP590	TO-220
2N5984	Mot Case 90	MJE3055T	TO-220	BD595	Mot Case 199	NSP595	TO-220
2N5985	Mot Case 90	2N6488	TO-220	BD596	Mot Case 199	NSP596	TO-220
2N6021	TO-220	2N6126	TO-220	BD597	Mot Case 199	NSP597	TO-220
2N6022	TO-220	2N6126	TO-220	BD601	Mot Case 199	NSP601	TO-220
2N6023	TO-220	2N6124	TO-220	BD602	Mot Case 199	NSP602	TO-220
2N6024	TO-220	2N6124	TO-220	BD603	Mot Case 199	NSP603	TO-220
2N6025	TO-220	2N6125	TO-220	BD604	Mot Case 199	NSP604	TO-220
2N6026	TO-220	2N6125	TO-220	BD605	Mot Case 199	NSP605	TO-220
2N6040	Mot Case 199	TIP125	TO-220	BD606	Mot Case 199	NSP606	TO-220
2N6041	Mot Case 199	TIP126	TO-220	BD607	Mot Case 199	NSP607	TO-220
2N6042	Mot Case 199	TIP127	TO-220	BD608	Mot Case 199	NSP608	TO-220
2N6043	Mot Case 199	TIP120	TO-220	BD609	Mot Case 199	NSP609	TO-220
2N6044	Mot Case 199	TIP121	TO-220	BD610	Mot Case 199	NSP610	TO-220
2N6045	Mot Case 199	TIP122	TO-220	BD695	Mot Case 199	NSP695	TO-220
2N6098	TO-220	2N6099	TO-220	BD695A	Mot Case 199	NSP695A	TO-220
2N6100	TO-220	2N6101	TO-220	BD700	Mot Case 199	NSP700	TO-220
2N6101	TO-220	2N6101	TO-220	BD700A	Mot Case 199	NSP700A	TO-220
2N6102	TO-220	2N6102	TO-220	BD701	Mot Case 199	NSP701	TO-220
2N6103	TO-220	2N6103	TO-220	BD702	Mot Case 199	NSP702	TO-220
2N6106	TO-220	2N6107	TO-220	D45E1	TO-220	TIP125	TO-220
2N6108	TO-220	2N6109	TO-220	D45E2	TO-220	TIP125	TO-220
2N6109	TO-220	2N6109	TO-220	D45E3	TO-220	TIP126	TO-220
2N6110	TO-220	2N6111	TO-220	FT2955	TO-220	MJE2955T	TO-220
2N6111	TO-220	2N6111	TO-220	FT3055	TO-220	MJE3055T	TO-220
2N6175	Plastic TO-5	2N5656	TO-126	MJE29	Mot Case 199	TIP29	TO-220
2N6176	Plastic TO-5	2N5656	TO-126	MJE29A	Mot Case 199	TIP29A	TO-220
2N6177	Plastic TO-5	2N5657	TO-126	MJE29B	Mot Case 199	TIP29B	TO-220
2N6178	Plastic TO-5	MJE182	TO-126	MJE29C	Mot Case 199	TIP29C	TO-220
2N6179	Plastic TO-5	MJE181	TO-126	MJE30	Mot Case 199	TIP30	TO-220
2N6180	Plastic TO-5	MJE172	TO-126	MJE30A	Mot Case 199	TIP30A	TO-220
2N6181	Plastic TO-5	MJE171	TO-126	MJE30B	Mot Case 199	TIP30B	TO-220
2N6406	TO-126 (rev)	MJE171	TO-126	MJE30C	Mot Case 199	TIP30C	TO-220
2N6407	TO-126 (rev)	MJE172	TO-126	MJE33	Mot Case 199	TIP41	TO-220
2N6408	TO-126 (rev)	MJE181	TO-126	MJE33A	Mot Case 199	TIP41A	TO-220
2N6409	TO-126 (rev)	MJE182	TO-126	MJE33B	Mot Case 199	TIP41B	TO-220
2N6410	TO-126 (rev)	MJE200	TO-126	MJE33C	Mot Case 199	TIP41C	TO-220



MEDIUM POWER

Type No.	Case Style	V _{CB0} (V) Min	V _{CER} * V _{CEO} (V) Min	V _{EB0} (V) Min	I _{CES} * I _{CB0} (nA) @ V _{CB} (V) Max	h _{FE} Min Max @ I _C (mA) & V _{CE} (V)	V _{CE} (SAT) (V) Max & V _{BE} (SAT) (V) Min Max @ I _C (mA)	C _{ob} (pF) Max	f _T (MHz) Min Max @ I _C (mA)	t _{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
2N699	TO-39	120	60	5	2 60	40 120 150 10	5.0 1.3 150	20	50 50				12
2N1613	TO-5	75	35	7	10 60	20 40 35 20 500 120 150 10 100 μA 10	1.5 1.3 150	25	60 50		12	1	12
2N1711	TO-5	75	35	7	10 60	40 100 75 35 20 500 300 150 10 100 μA 10	1.5 1.3 150	25	70 50		8	1	12
2N2017	TO-39	60	60	8	10 μA 30	20 50 20 10 200 1A 10	2.0 200						12
2N2102	TO-39	120	65	7	2 60	10 20 35 40 25 10 0.01 0.1 10 150 500 1A 10	0.5 1.1 150	15	60 50				12
2N2192	TO-39	60	40	5	10 30	15 75 100 70 35 15 0.01 0.1 10 300 150 500 1A 10	0.35 1.3 150	10	50 50				12
2N2192A	TO-39	60	40	5	10 30	15 75 100 70 35 15 0.01 0.1 10 300 150 500 1A 10	0.25 1.3 150	20	50 50				12
2N2193	TO-39	80	50	8	10 80	15 30 40 30 20 15 0.01 0.1 10 120 150 500 1A 10	0.35 1.3 150	20	50 50				12

TEST CONDITIONS:

(1) I_C = 50 mA, V_{CC} = 100V, I_B¹ = I_B² = 5 mA. (2) I_C = 500 μA, V_{CE} = 10V, f = 1 kHz. (3) I_C = 500 mA, V_{CC} = 30V, I_B¹ = I_B² = 50 mA. (4) I_C = 150 mA, V_{CC} = 30V, I_B¹ = I_B² = 15 mA. (5) I_C = 100 μA, V_{CC} = 10V, f = 1 kHz. (6) I_C = 500 mA, V_{CC} = 30V, I_B¹ = I_B² = 50 mA. (7) I_C = 2A, V_{CC} = 40V, I_B¹ = I_B² = 200 mA.



NPN Transistors