



SWITCHES/CHOPPERS (Continued)

Type No.	Case Style	BV _{GSS} BV _{GDO} (V) @ I _G		I _{GSS} * I _{DGO} (nA) @ V _{DG}		I _{D(off)} (nA) @ V _{DS} V _{GS}			V _p (V) @ V _{DS} I _D			I _{DSS} (mA) @ V _{DS}			r _{ds(on)} (Ω) @ I _D		C _{iss} (pF) @ V _{DS} V _{GS}			C _{rss} (pF) @ V _{DS} V _{GS}			t _{on} (ns)	t _{off} (ns)	Process No.	Pkg. No.
		Min	Max	Min	Max	Max	(V)	(V)	Min	Max	(V)	Min	Max	(V)	Max	(mA)	Max	(V)	Max	(V)	Max	Max				
2N5653	TO-92	30	10	1	15	1	15	-12	(12)			40	20	50	1	10	0	-12	3.5	0	-12	9	15	51	92	
2N5654	TO-92	25	10	1	15	10	15	-8	(8)			15	20	100	1	10	0	-12	3.5	0	-8	14	30	51	92	
J108	TO-92	25	1	3	15	3	5	-10	3	10	5	1000	80	15	8	10	t30	0	-10	t15	0	-10	15	t36	58	92
J109	TO-92	25	1	3	15	3	5	-10	2	6	5	1000	40	15	12	10	t30	0	-10	t15	0	-10	15	t36	58	92
J110	TO-92	25	1	3	15	3	5	-10	0.5	4	5	1000	10	15	18	10	t30	0	-10	t15	0	-10	15	t36	58	92
J111	TO-92	35	1	1	15	1	5	-10	3	10	5	1000	20	15	30	1	t10	0	-10	15	0	-10	t13	t35	51	92
J112	TO-92	35	1	1	15	1	5	-10	1	5	5	1000	5	15	50	1	t10	0	-10	15	0	-10	t13	t35	51	92
J113	TO-92	35	1	1	15	1	5	-10	0.5	3	5	1000	2	15	100	1	t10	0	-10	15	0	-10	t13	t35	51	92
J114	TO-92	25	1	1	15	1	5	-10	3	10	5	1000	15	15	150	1	t4	0	-10	t2	0	-10	t6	t20	90	92
PN4091	TO-92	40	1	0.2*	20	0.2	20	-12	5	10	20	1	30	20	30		16	20	0	5	20	0	25	40	51	92
PN4092	TO-92	40	1	0.2*	20	0.2	20	-8	2	7	20	1	15	20	50		16	20	0	5	20	0	35	60	51	92
PN4093	TO-92	40	1	0.2*	20	0.2	20	-6	1	5	20	1	8	20	80		16	20	0	5	20	0	60	80	51	92
PN4391	TO-92	40	1	0.1	20	0.1	20	-12	4	10	20	1	50	150	20	30	14	20	0	3.5	0	-12	20	35	51	92
PN4392	TO-92	40	1	0.1	20	0.1	20	-7	2	5	20	1	25	75	20	60	14	20	0	3.5	0	-7	40	80	51	92
PN4393	TO-92	40	1	0.1	20	0.1	20	-5	0.5	3	20	1	5	30	20	100	14	20	0	3.5	0	-5	55	130	51	92
PN4856	TO-92	40	1	0.25	20	0.25	15	-10	4	10	15	0.5	50	15	25		18	0	-10	8	0	-10	9	25	51	92
PN4857	TO-92	40	1	0.25	20	0.25	15	-10	2	6	15	0.5	20	100	15	40	18	0	-10	8	0	-10	10	50	51	92
PN4858	TO-92	40	1	0.25	20	0.25	15	-10	0.8	4	15	0.5	8	80	15	60	18	0	-10	8	0	-10	20	100	51	92
PN4859	TO-92	30	1	0.25	15	0.25	15	-10	4	10	15	0.5	50	15	25		18	0	-10	8	0	-10	9	25	51	92
PN4860	TO-92	30	1	0.25	15	0.25	15	-10	2	6	15	0.5	20	100	15	40	18	0	-10	8	0	-10	10	50	51	92
PN4861	TO-92	30	1	0.25	15	0.25	15	-10	0.8	4	15	0.5	8	80	15	60	18	0	-10	8	0	-10	20	100	51	92
PN5432	TO-92	25	1	0.2	15	0.2	5	-10	4	10	5	3	150	15	5	10	30	0	-10	15	0	-10	5	36	58	92
PN5433	TO-92	25	1	0.2	15	0.2	5	-10	3	9	5	3	100	15	7	10	30	0	-10	15	0	-10	5	36	58	92
PN5434	TO-92	25	1	0.2	15	0.2	5	-10	1	4	5	3	30	15	10	10	30	0	-10	15	0	-10	5	36	58	92
TIS73	TO-92	30	1	2	15	2	15	-10	4	10	15	4	50	15	25		18	0	-10	8	0	-10	9	25	51	97
TIS74	TO-92	30	1	2	15	2	15	-10	2	6	15	4	20	100	15	40	18	0	-10	8	0	-10	10	50	51	97
TIS75	TO-92	30	1	2	15	2	15	-10	0.8	4	15	4	8	80	15	60	18	0	-10	8	0	-10	20	100	51	97
U1897	TO-92	40	1	0.2*	20				5	10	20	1	30	20	30	1	16	20	0	5	0	-20	25	40	51	92
U1898	TO-92	40	1	0.2*	20				2	7	20	1	15	20	50	1	16	20	0	5	0	-20	35	60	51	92
U1899	TO-92	40	1	0.2*	20				1	5	20	1	8	20	80	1	16	20	0	5	0	-20	60	80	51	92

t = typical value.

Industry P/N	Polarity	Package	Direct Replacement	Closest Equivalent Replacement	Process Package	Package Type	Industry P/N	Polarity	Package	Direct Replacement	Closest Equivalent Replacement	Process Package	Package Type
MFE2006	N	TO-18		2N4091	5102	TO-18	PN3685	N	TO-92	PN3685		5272	TO-92
MFE2007	N	TO-18		2N4857	5102	TO-18	PN3686	N	TO-92	PN3686		5272	TO-92
MFE2008	N	TO-18		2N4391	5102	TO-18	PN3687	N	TO-92	PN3687		5272	TO-92
MFE2009	N	TO-18		2N4856	5102	TO-18	PN4091	N	TO-92	PN4091		5172	TO-92
MFE2010	N	TO-18		2N4856	5102	TO-18	PN4092	N	TO-92	PN4092		5172	TO-92
MFE2011	N	TO-18		2N5433	5807	TO-52	PN4093	N	TO-92	PN4093		5172	TO-92
MFE2012	N	TO-18		2N5433	5807	TO-52	PN4220	N	TO-92	PN4220		5572	TO-92
MFE4007	P	TO-72		2N5020	8911	TO-18	PN4221	N	TO-92	PN4221		5572	TO-92
MFE4008	P	TO-72		2N2608	8911	TO-18	PN4222	N	TO-92	PN4222		5572	TO-92
MFE4009	P	TO-72		2N3329	8923	TO-72	PN4223	N	TO-92	PN4223		5072	TO-92
MFE4010	P	TO-72		2N3330	8923	TO-72	PN4224	N	TO-92	PN4224		5072	TO-92
MFE4011	P	TO-72		2N3331	8923	TO-72	PN4302	N	TO-92	PN4302		5272	TO-92
MPF102	N	TO-92	MPF102		5072	TO-92	PN4303	N	TO-92	PN4303		5272	TO-92
MPF103	N	TO-92	MPF103		5572	TO-92	PN4304	N	TO-92	PN4304		5272	TO-92
MPF104	N	TO-92	MPF104		5072	TO-92	PN4342	N	TO-92	PN4342		8971	TO-92
MPF105	N	TO-92	MPF105		5572	TO-92	PN4360	N	TO-92	PN4360		8971	TO-92
MPF106	N	TO-92	MPF106		5072	TO-92	PN4391	N	TO-92	PN4391		5172	TO-92
MPF107	N	TO-92	MPF107		5072	TO-92	PN4392	N	TO-92	PN4392		5172	TO-92
MPF108	N	TO-92	MPF108		5072	TO-92	PN4393	N	TO-92	PN4393		5172	TO-92
MPF109	N	TO-92	MPF109		5572	TO-92	PN4416	N	TO-92	PN4416		5072	TO-92
MPF110	N	TO-92	MPF110		5072	TO-92	PN4856	N	TO-92	PN4856		5172	TO-92
MPF111	N	TO-92	MPF111		5072	TO-92	PN4857	N	TO-92	PN4857		5172	TO-92
MPF112	N	TO-92	MPF112		5072	TO-92	PN4858	N	TO-92	PN4858		5172	TO-92
MPF161	P	TO-92		2N5461	8971	TO-92	PN4859	N	TO-92	PN4859		5172	TO-92
MPF256	N	TO-92	MPF256		9072	TO-92	PN4860	N	TO-92	PN4860		5172	TO-92
MPF820	N	TO-92	MPF820		9272	TO-92	PN4861	N	TO-92	PN4861		5172	TO-92
MPF970	P	TO-92		P1086	8871	TO-92	PN5033	N	TO-92	PN5033		8971	TO-92
MPF971	P	TO-92		P1087	8871	TO-92	PN5163	N	TO-92	PN5163		5072	TO-92
MPF4391	N	TO-92	PN4391		5172	TO-92	SU2000	N	TO-71		2N3822	5525	TO-72
MPF4392	N	TO-92	PN4392		5172	TO-92	SU2020	N	TO-71		2N5196	8312	TO-71
MPF4393	N	TO-92	PN4393		5172	TO-92	SU2021	N	TO-71		2N5196	8312	TO-71
NDF9401	N	TO-78		NDF9406	9412	TO-71	SU2022	N	TO-71		2N5196	8312	TO-71
NDF9402	N	TO-78		NDF9407	9412	TO-71	SU2023	N	TO-71		2N5196	8312	TO-71
NDF9403	N	TO-78		NDF9408	9412	TO-71	SU2024	N	TO-71		2N5196	8312	TO-71
NDF9404	N	TO-78		NDF9409	9412	TO-71	SU2025	N	TO-71		2N5196	8312	TO-71
NDF9405	N	TO-78		NDF9410	9412	TO-71	SU2026	N	TO-71		2N5196	8312	TO-71
NDF9406	N	TO-71	NDF9406		9412	TO-71	SU2027	N	TO-71		2N5196	8312	TO-71
NDF9407	N	TO-71	NDF9407		9412	TO-71	SU2028	N	TO-71		2N5196	8312	TO-71
NDF9408	N	TO-71	NDF9408		9412	TO-71	SU2029	N	TO-71		2N5196	8312	TO-71
NDF9409	N	TO-71	NDF9409		9412	TO-71	SU2030	N	TO-71		2N4082	8312	TO-71
NDF9410	N	TO-71	NDF9410		9412	TO-71	SU2033	N	TO-71		2N5561	8312	TO-71
NF500	N	TO-72		2N4224	5025	TO-72	SU2034	N	TO-71		2N5561	8312	TO-71
NF501	N	TO-72		2N4224	5025	TO-72	SU2035	N	TO-71		2N5561	8312	TO-71
NF506	N	TO-72		2N3823	5025	TO-72	SU2076	N	TO-71		2N5561	8312	TO-71
NF510	N	TO-18		2N4092	5102	TO-18	SU2077	N	TO-71		2N5561	8312	TO-71
NF511	N	TO-18		2N4092	5102	TO-18	SU2078	N	TO-71		2N3955	8312	TO-71
NF520	N	TO-72		2N4224	5025	TO-72	SU2079	N	TO-71		2N3956	8312	TO-71
NF521	N	TO-72		2N4220	5525	TO-72	SU2080	N	TO-71		U404	9812	TO-71
NF522	N	TO-72		2N4224	5025	TO-72	SU2081	N	TO-71		U404	9812	TO-71
NF523	N	TO-72		2N4220	5525	TO-72	SU2098	N	TO-71		2N3954	8312	TO-71
NF530	N	TO-18		2N3822	5525	TO-72	SU2098A	N	TO-71		2N3954	8312	TO-71
NF531	N	TO-18		2N3821	5525	TO-72	SU2098B	N	TO-71		2N3954A	8312	TO-71
NF532	N	TO-18		2N3822	5525	TO-72	SU2099	N	TO-71		2N3955A	8312	TO-71
NF533	N	TO-18		2N3821	5525	TO-72	SU2099A	N	TO-71		2N3955A	8312	TO-71
NF3819	N	TO-18	2N3819-18		5074	TO-92	SU2365	N	TO-71		U401	9812	TO-71
NF4302	N	TO-18	PN4302-18		5272	TO-92	SU2365A	N	TO-71		U401	9812	TO-71
NF4303	N	TO-18	PN4303-18		5272	TO-92	SU2366	N	TO-71		U402	9812	TO-71
NF4304	N	TO-18	PN4304-18		5272	TO-92	SU2366A	N	TO-71		U402	9812	TO-71
NF4445	N	TO-18		2N5432	5807	TO-52	SU2367	N	TO-71		U403	9812	TO-71
NF4446	N	TO-18		2N5433	5807	TO-52	SU2367A	N	TO-71		U403	9812	TO-71
NF4447	N	TO-18		2N5432	5807	TO-52	SU2368	N	TO-71		U404	9812	TO-71
NF4448	N	TO-18		2N4856	5807	TO-52	SU2368A	N	TO-71		U404	9812	TO-71
NF5101	N	TO-72	NF5101		5125	TO-72	SU2369	N	TO-71		U405	9812	TO-71
NF5102	N	TO-72	NF5102		5125	TO-72	SU2369A	N	TO-71		U405	9812	TO-71
NF5103	N	TO-72	NF5103		5125	TO-72	SU2652M	N	MiniDip		J401	9860	MiniDip
NF5163	N	TO-18	PN5163-18		5072	TO-72	SU2653M	N	MiniDip		J401	9860	MiniDip
NF5457	N	TO-18	2N5457-18		5572	TO-92	SU2654M	N	MiniDip		J401	9860	MiniDip
NF5458	N	TO-18	2N5458-18		5572	TO-92	SU2655M	N	MiniDip		J402	9860	MiniDip
NF5459	N	TO-18	2N5459-18		5572	TO-92	SU2656M	N	MiniDip		J404	9860	MiniDip
NF5484	N	TO-18	2N5484-18		5072	TO-92	TD5452	N	TO-18/8		2N5452	8312	TO-71
NF5485	N	TO-18	2N5485-18		5072	TO-92	TD5453	N	TO-18/8		2N5453	8312	TO-71
NF5486	N	TO-18	2N5486-18		5072	TO-92	TD5454	N	TO-18/8		2N5454	8312	TO-71
NF5555	N	TO-72	2N5555-18		5072	TO-92	TD5902	N	TO-18/8	2N5902		8424	TO-78
NF5638	N	TO-18	2N5638-18		5172	TO-92	TD5902A	N	TO-18/8		2N5902	8424	TO-78
NF5639	N	TO-18	2N5639-18		5172	TO-92	TD5903	N	TO-18/8	2N5903		8424	TO-78
NF5640	N	TO-18	2N5640-18		5172	TO-92	TD5903A	N	TO-18/8		2N5903	8424	TO-78
NF5653	N	TO-18	2N5653-18		5172	TO-92	TD5904	N	TO-18/8	2N5904		8424	TO-78
NF5654	N	TO-18	2N5654-18		5172	TO-92	TD5904A	N	TO-18/8		2N5904	8424	TO-78
P1086E	P	TO-106	P1086-18		8871	TO-92	TD5905	N	TO-18/8	2N5905		8424	TO-78
P1087E	P	TO-106	P1087-18		8871	TO-92	TD5905A	N	TO-18/8		2N5905	8424	TO-78
PF510	P	TO-18		PN4392-18	5172	TO-92	TD5906	N	TO-18/8	2N5906		8424	TO-78
PF511	P	TO-18		PN4392-18	5172	TO-92	TD5906A	N	TO-18/8		2N5906	8424	TO-78
PF5101	N	TO-92	PF5101		5172	TO-92	TD5907	N	TO-18/8	2N5907		8424	TO-78
PF5102	N	TO-92	PF5102		5172	TO-92	TD5907A	N	TO-18/8		2N5907	8424	TO-78
PF5103	N	TO-92	PF5103		5172	TO-92	TD5908	N	TO-18/8	2N5908		8424	TO-78
PN3684	N	TO-92	PN3684		5272	TO-92	TD5908A	N	TO-18/8		2N5908	8424	TO-78