NEC

NEC Power MOS FET

- ○Low Voltage MOS FET Series
- ○High Voltage MOS FET Series
- ○Semi Power MOS FET
- ○MOS FET Array

NEC Power MOS FET

N7-L Series

- Low Voltage Power MOS FET
- Lower On-state Resistance
- Easier drive by 4V, 4.5V, CMOS Logic IC

N5-H Series

- High Voltage Power MOS FET
- Lower Q_g
- TO-251/-252, TO-220/-262 /-263, TO-3P Package

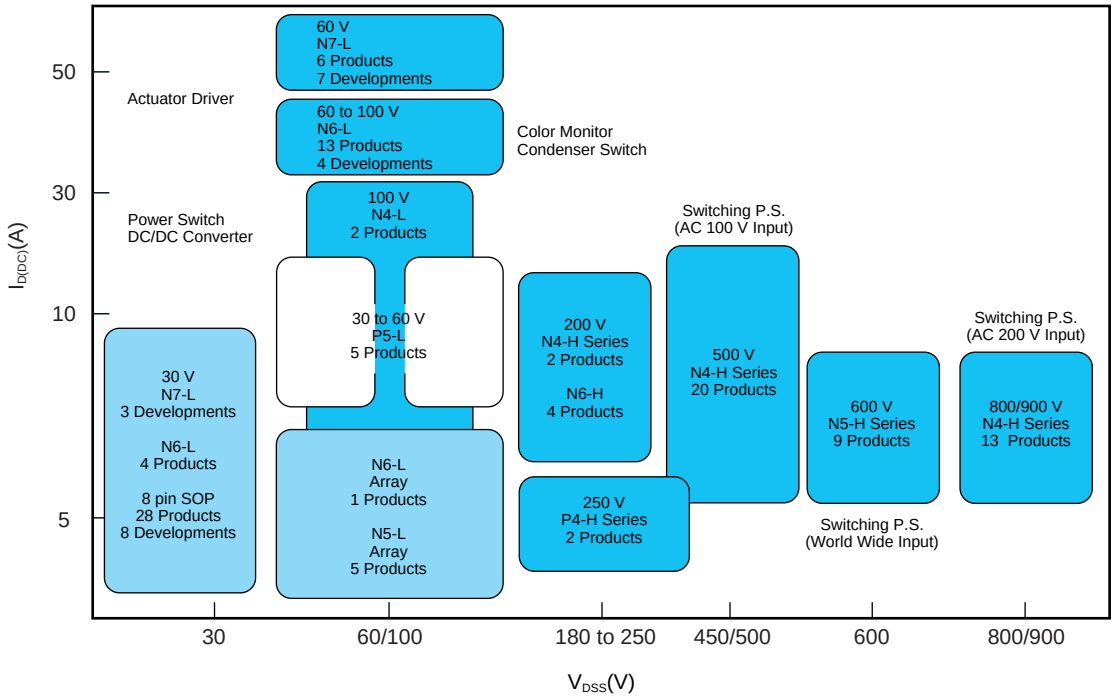
New Package

- SC-96 / SC-95

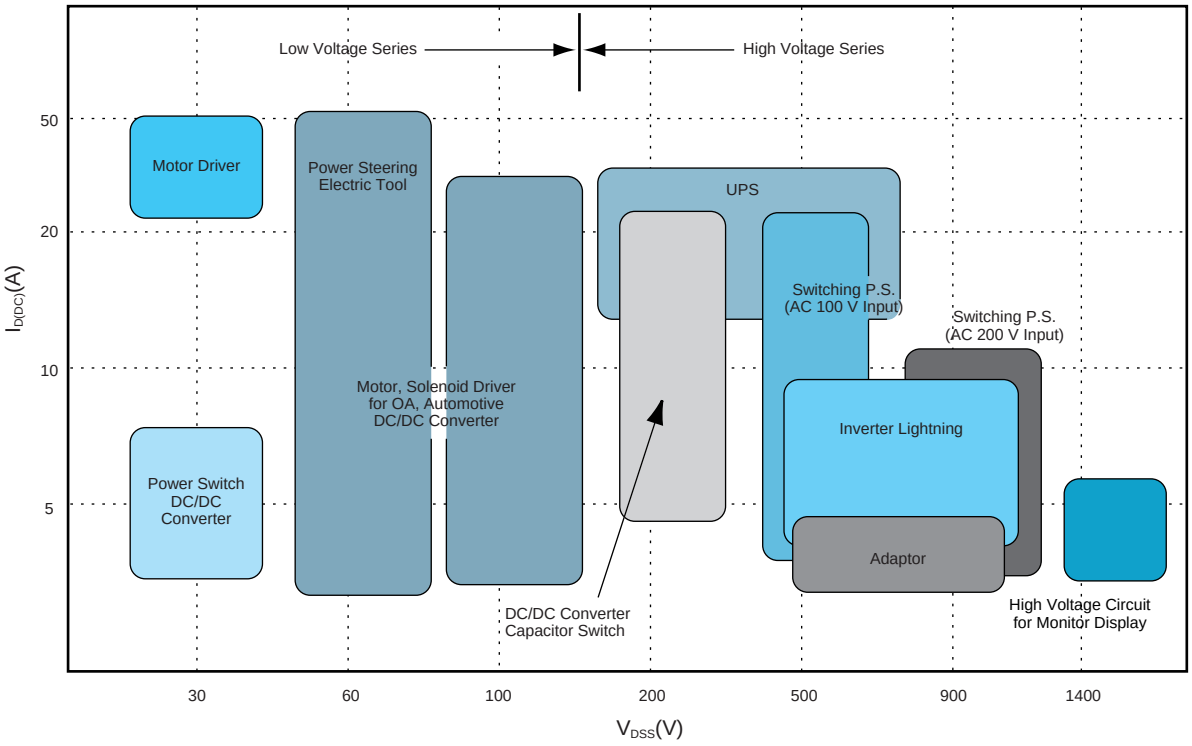
SC-96
(Similar to SOT-23)

SC-95
(Equal to SOT-6)

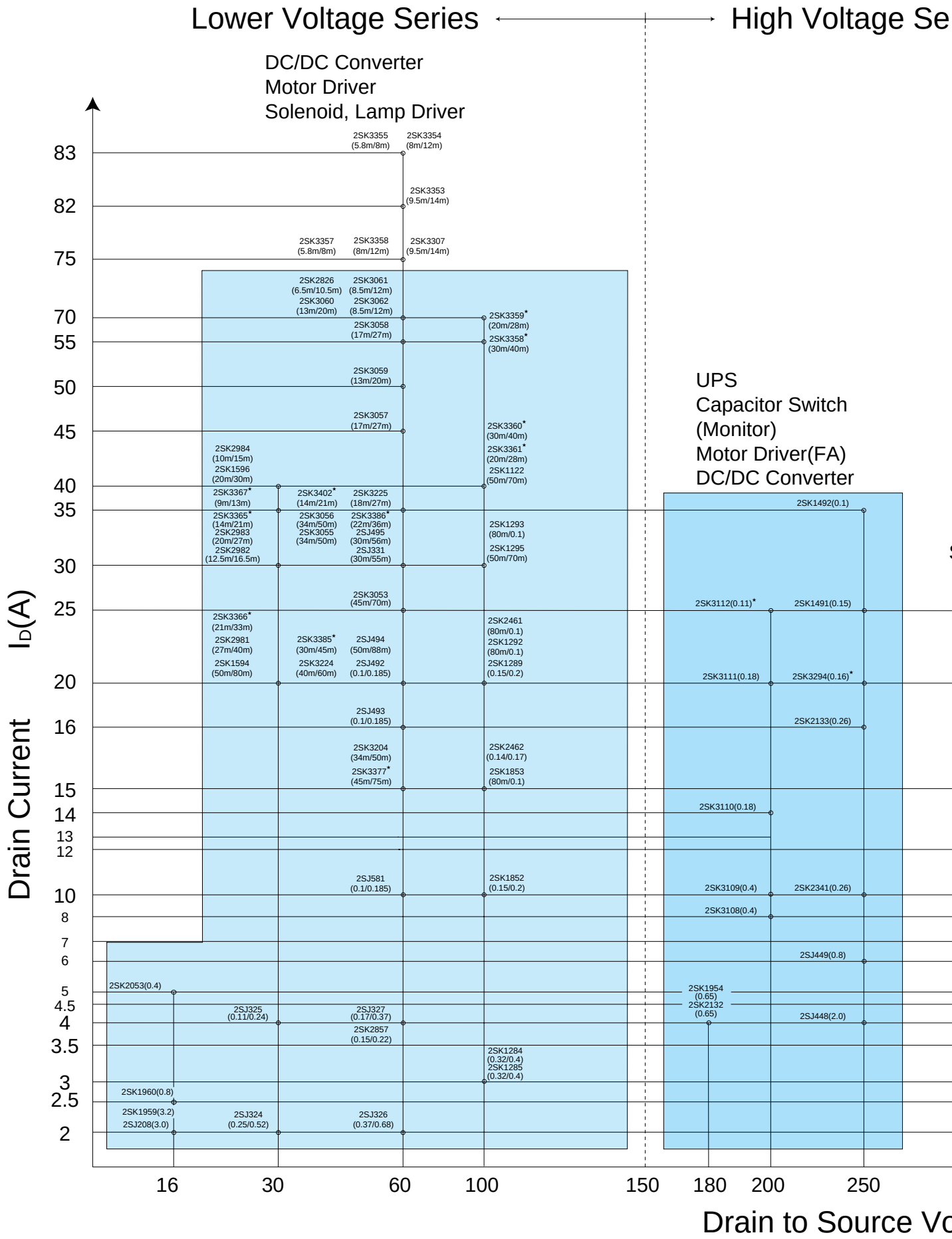
Power MOS FET Series Map



Power MOS FET Application Map



Power MOS FET Products Map



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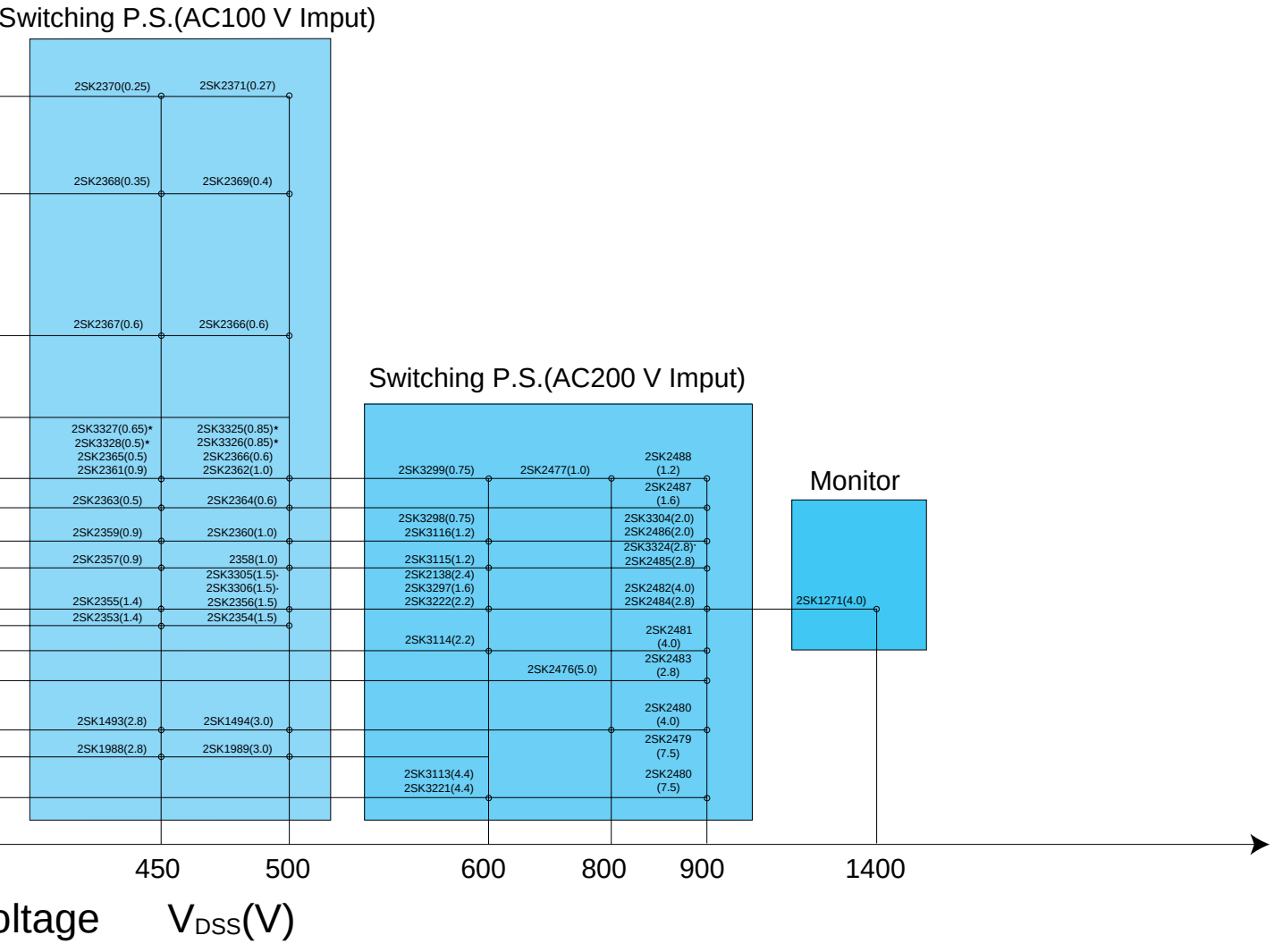
✻( )means $R_{DS(on)}$
Lower Voltage Series : (V_{GS}= 10V / V_{GS}= 4V)
High Voltage Series : (V_{GS}= 10V)
★Under development



CHARACTERISTICS

○ 8-pin Power MOS FET Series

① N-Channel Singles

★Under Development

Type No.	Rating			Characteristics				
	V_{DSS} (V)	V_{GSS} (V)	$I_{D(DC)}$ (A)	$R_{DS(on)}$(mΩ) MAX.			C_{iss} (pF) TYP.	Q_g (nC) TYP.
				@V_{GS}=10V	@V_{GS}=4V	@V_{GS}=2.5V		
μPA1723	20	12	13	–	6.7*	7.4	3800	47
μPA1724		12	10	–	11*	15	1850	18
μPA1725		12	7	–	21*	30	950	9.6
μPA1726		12	12	–	9*	12.5	2700	25
μPA1700A	30	20	7	27	50	–	820	20
μPA1701A		12	7	–	27	40	1040	13.2
μPA1703		20	10	10.5	17	–	2180	40
μPA1704		12	10	–	14	16	2800	65
μPA1705		25	8	27	40*	–	750	19
μPA1706		20	13	7.8	10*	–	3000	56
μPA1707		20	10	13.5	18*	–	1400	26
μPA1720		20	8	25	33*	–	800	14
μPA1721		20	10	10.5	14*	–	2200	39
μPA1722		20	9	21	29*	–	980	18
μPA1708	40	25	7	34	48*	–	730	20
μPA1709		25	9	13.5	21*	–	1800	44
μPA1727★	60	20	10	19	22*	–	2350	46
μPA1728★		20	9	27	32*	–	1580	31

*@V_{GS}=4V

② N-Channel Dual

★Under Development

Type No.	Dual Rating			Characteristics				
	V_{DSS} (V)	V_{GSS} (V)	$I_{D(DC)}$ (A)	$R_{DS(on)}$(mΩ) MAX.			C_{iss} (pF) TYP.	Q_g (nC) TYP.
				@V_{GS}=10V	@V_{GS}=4V	@V_{GS}=2.5V		
μPA1754	30	20	7	32	53	–	780	18
μPA1755		20	7	32	45*	–	900	19
μPA1756		12	6	–	30*	40	800	11
μPA1757		12	7	–	23*	32	750	13
μPA1758		12	6	–	30*	40	1100	15
μPA1760		20	8	26	36*	–	760	14
μPA1759	60	20	5	160	300	–	186	8.6
μPA1763★		20	4.5	48	61*	–	1000	17
μPA1764★		20	7	36	42*	–	1260	25

*@V_{GS}=4.5V

③ P-Channel Singles

★Under Development

Type No.	Rating			Characteristics				
	V_{DSS} (V)	V_{GSS} (V)	$I_{D(DC)}$ (A)	$R_{DS(on)}$(mΩ) MAX. @V_{GS}=10V	@V_{GS}=4V	@V_{GS}=2.5V	C_{iss} (pF) TYP.	Q_g (nC) TYP.
μPA1712	−30	−20	−8	20	35	—	2700	55
μPA1715		−20	−11	11.5	16	—	3800	70
μPA1716		−20	−8	16	23	—	2100	40
μPA1717★		−20	−6	36	57	—	850	16
μPA1730★		−20	−13	9.5	13.5	—	3800	70
μPA1731★		−20	−10	13	20	—	2700	50

④ P-Channel Dual

★Under Development

Type No.	Rating			Characteristics				
	V_{DSS} (V)	V_{GSS} (V)	$I_{D(DC)}$ (A)	$R_{DS(on)}$(mΩ) MAX. @V_{GS}=10V	@V_{GS}=4V	@V_{GS}=2.5V	C_{iss} (pF) TYP.	Q_g (nC) TYP.
μPA1750	−20	−20	−3.5	90	180	—	540	18
μPA1770★		−12	−6	—	37*	63	1170	17

*@V_{GS}=4.5V

⑤ N+P Channel

Type No.	Configration		Rating			Characteristics			
			V_{DSS} (V)	V_{GSS} (V)	$I_{D(DC)}$ (A)	$R_{DS(on)}$(mΩ) MAX. @V_{GS}=10V	@V_{GS}=4V	C_{iss} (pF) TYP	Q_g (nC) TYP
μPA1790G	Nch+Pch	Nch	60	±20	±1	120/260	190/340*	180	8
		Pch	60	±20	±0.7	440/600	740/1100*	230	7.6

*@V_{GS}=4V

○ 8-pin TSSOP Power MOS FET Series

Configration		Rating				Characteristics				
		Type No.	V_{DSS} (V)	V_{GSS} (V)	$I_{D(DC)}$ (A)	$R_{DS(on)}$(mΩ) MAX. @V_{GS}=2.5V	@V_{GS}=4V	@V_{GS}=4.5V	@V_{GS}=10V	Q_g (nC) TYP.
Nch	Single	μPA1800	30	±20	±5	–	45	39	27	23
		μPA1801	20	±8	±6	34	25	24	–	21
		μPA1802	20	±12	±7	32	25	23	–	13
		μPA1803	30	±20	±8	–	–	16	12	36
		μPA1804	30	±20	±8	–	–	32	23	14
	Dual	μPA1852	20	±12	±5	60	45	40	–	5
		μPA1855	20	±12	±6	29	24	23	–	8
Pch	Single	μPA1810	– 12	–10/+5	±4	100	60	55	–	35
		μPA1811	– 20	–12/+5	±4	120	80	75	–	36
		μPA1812	– 30	–20/+5	±5	–	90	70	40	30
		μPA1813	– 12	–10/+5	±5	40	30	25	–	24
		μPA1814	– 30	±20	±7	–	27	24	16	38
		μPA1815	– 20	±12	±7	23	16	15	–	25
	Dual	μPA1850	– 12	–10/+5	±2.5	200	130	115	–	12
		μPA1851	– 20	–20/+5	±2.5	–	250	210	105	8
		μPA1853	– 30	–20/+5	±2.5	–	220	190	85	10
		μPA1854	– 12	–10/+5	±2.5	105	70	60	–	8
		μPA1856	– 20	±12	±4.5	77	48	45	–	6
N/Pch	Nch+Pch	μPA1890	30	±20	±6	–	47	37	27	14
			– 30	±20	±5	–	64	56	37	15

○ SC-96 / SC-95 Semi Power MOS FET Series

Configration	Number of Pin	Rating				Characteristics				
		Type No.	V_{DSS} (V)	V_{GSS} (V)	$I_{D(DC)}$ (A)	$R_{DS(on)}$(mΩ) MAX. @V_{GS}=2.5V	@V_{GS}=4V	@V_{GS}=4.5V	@V_{GS}=10V	Q_g (nC) TYP.
Nch	3	2SK3105	30	±20	±2.5	–	150	135	95	2.1
	6	μPA1900	20	±12	±5.5	45	38	35	–	8
Pch	3	2SJ557	– 30	–20/+5	±2.5	–	290	255	155	2.8
	6	μPA1912	– 12	±10	±4.5	70	52	50	–	5.5
		μPA1913	– 20	±12	±4.5	90	58	55	–	6.0
		μPA1914	– 30	±20	±4.5	–	96	86	57	12

○ N7-L Series

Type No.	Package	Rating			Characteristics					
		V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T @T_C=25°C (W)	$R_{DS(on)}$@V_{GS}=10V		$R_{DS(on)}$@V_{GS}=4V		C_{ISS} (pF)	Q_g (nC)
					TYP.(Ω)	MAX.(Ω)	TYP.(Ω)	MAX.(Ω)		
2SK3365/-Z*	TO-251/-252	30	30	27	11.5m	14m	15.5m	21m*	1300	23
2SK3366/-Z*	TO-251/-252		20	17	17m	21m	26m	33m*	730	15
2SK3367/-Z*	TO-251/-252		36	36	7.3m	9m	9m	13m*	2800	49
2SK3377/-Z*	TO-251/-252	60	15	25	36m	45m	52m	75m	780	--
2SK3385/-Z*	TO-251/-252		20	30	23m	30m	31m	45m	1500	--
2SK3386/-Z*	TO-251/-252		30	35	17m	22m	25m	36m	2100	--
2SK3402/-Z*	TO-251/-252		34	40	10m	14m	14m	21m	3000	--
2SK3353/-S/-ZJ	TO-220/-262/263		82	95	7.5m	9.5m	10.5m	14m	4650	90
2SK3354/-S/-ZJ	TO-220/-262/263		83	100	6.3m	8.0m	8m	12m	6300	106
2SK3355/-S/-ZJ	TO-220/-262/263		83	100	4.5m	5.8m	5.6m	8m	9800	170
2SK3307	TO-3P		70	120	7.5m	9.5m	10.5m	14m	4650	90
2SK3356	TO-3P		75	150	6.3m	8.0m	8m	12m	6300	106
2SK3357	TO-3P		75	150	4.5m	5.8m	5.6m	8m	9800	170

*@V_{GS}=4.5V

○ N6-L Series

★Under Development

Type No.	Package	Ratings			Characteristics					
		V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T @T_C=25°C (W)	$R_{DS(on)}$ @V_{GS}=10V		$R_{DS(on)}$ @V_{GS}=4V		C_{iss} (pF)	C_{rss} (pF)
					TYP.(Ω)	MAX.(Ω)	TYP.(Ω)	MAX.(Ω)		
2SK2826/-S/-ZJ	TO-220/-262/-263	60	70	100	5.5m	6.5m	7m	10.5m	7260	660
2SK2981/-Z	TO-251/-252	30	20	20	20m	27m	30m	40m*1	860	160
2SK2982/-Z	TO-251/-252		30	20	9.8m	12.5m	13.2m	16.5m*1	2290	440
2SK2983/-S/-ZJ	TO-220/-262/-263		30	50	13m	20m	18m	27m*1	1200	250
2SK2984/-S/-ZJ	TO-220/-262/-263		40	60	6.5m	10m	8.5m	13m*1	2600	500
2SK3224/-Z	TO-251/-252	60	20	25	24m	40m	33m	60m	790	100
2SK3225/-Z	TO-251/-252		34	40	13m	18m	18m	27m	2100	220
2SK3053	Isolated TO-220		25	25	29m	45m	46m	70m	790	100
2SK3055	Isolated TO-220		30	25	28m	34m	42m	50m	990	90
2SK3056/-S/-ZJ	TO-220/-262/-263		32	34	28m	34m	42m	50m	990	90
2SK3057	Isolated TO-220		45	30	14m	17m	21m	27m	2040	190
2SK3058/-S/-ZJ	TO-220/-262/263		55	58	14m	17m	21m	27m	2040	190
2SK3059	Isolated TO-220		50	30	11m	13m	16m	20m	2550	250
2SK3060/-S/-ZJ	TO-220/-262/-263		70	70	11m	13m	16m	20m	2550	250
2SK3061	Isolated TO-220		70	35	6.3m	8.5m	9.8m	12m	5020	460
2SK3062/-S/-ZJ	TO-220/-262/-263		70	100	6.3m	8.5m	9.8m	12m	5020	460
2SK3204	MP-10		15	1.8*2	25m	34m	35m	50m	940	120
2SK3358/-S/-ZJ*	TO-220/-262/-263	100	55	100	21m	30m	28m	40m	1900	110
2SK3360*	Isolated TO-220		40	35	21m	30m	28m	40m	1900	110
2SK3359/-S/-ZJ*	TO-220/-262/-263		70	100	18m	20m	22m	28m	2950	310
2SK3361	Isolated TO-220		40	35	18m	20m	22m	28m	2950	310

∗1:@V_{GS}=4.5V ∗2:T_A=25°C

○ P5-L Series

Type No.	Package	Ratings			Characteristics					
		V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T @T_C=25°C (W)	$R_{DS(on)}$ @V_{GS}=10V		$R_{DS(on)}$ @V_{GS}=4V		C_{iss} (pF)	C_{rss} (pF)
					TYP.(Ω)	MAX.(Ω)	TYP.(Ω)	MAX.(Ω)		
2SJ492/-S/-ZJ	TO-220/-262/-263	-60	-20	70	70m	0.10	0.12	0.185	1210	180
2SJ493	Isolated TO-220		-16	30	70m	0.10	0.12	0.185	1210	180
2SJ494	Isolated TO-220		-20	35	39m	50m	61m	88m	2360	350
2SJ495	Isolated TO-220		-30	35	24m	30m	38m	56m	4120	580
2SJ581	MP-10		-12	1.8*	70m	0.10	0.12	0.185	1210	180

*:T_A=25°C

○ N4-L Series

Type No.	Package	Ratings			Characteristics					
		V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T (W)	$R_{DS(on)}$ @V_{GS}=10V		$R_{DS(on)}$ @V_{GS}=4V		C_{iss} (pF)	C_{rss} (pF)
					TYP.(Ω)	MAX.(Ω)	TYP.(Ω)	MAX.(Ω)		
2SK2461	Isolated TO-220	100	20	35	60m	80m	70m	0.10	1510	140
2SK2462	Isolated TO-220		15	30	0.10	0.14	0.12	0.17	870	80

○ P3-L Series

Type No.	Package	Rating			Characteristics					
		V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T (W)	$R_{DS(on)}$@V_{GS}=10V		$R_{DS(on)}$@V_{GS}=4V		C_{ISS} (pF)	C_{rss} (pF)
					TYP.(Ω)	MAX.(Ω)	TYP.(Ω)	MAX.(Ω)		
2SJ324/-Z	TO-251/-252	-30	-2.0	20	0.20	0.25	0.40	0.52	330	100
2SJ325/-Z	TO-251/-252		-4.0	20	85m	0.11	0.15	0.24	800	250
2SJ326/-Z	TO-251/-252	-60	-2.0	20	0.28	0.37	0.50	0.68	320	75
2SJ327/-Z	TO-251/-252		-4.0	20	0.13	0.17	0.22	0.34	750	165
2SJ303	Isolated TO-220		-14	35	75m	0.1	0.17	0.24	1200	290
2SJ302/-S/-ZJ	TO-220/-262/263		-16	60	75m	0.1	0.17	0.24	1200	290
2SJ328/-S/-ZJ	TO-220/-262/263		-20	75	48m	60m	85m	0.11	2150	530
2SJ329	Isolated TO-220		-15	35	48m	60m	85m	0.11	2150	530
2SJ330	Isolated TO-220		-20	35	38m	50m	65m	90m	2570	640
2SJ331	TO-3P		-30	150	25m	50m	40m	55m	4300	1110

○ N3-L Series

Type No.	Package	Ratings			Characteristics					
		V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T (W)	$R_{DS(on)}$ @V_{GS}=10V		$R_{DS(on)}$ @V_{GS}=4V		C_{iss} (pF)	C_{rss} (pF)
					TYP.(Ω)	MAX.(Ω)	TYP.(Ω)	MAX.(Ω)		
2SK1594	Isolated TO-220	30	20	30	37m	50m	50m	80m	1300	280
2SK1596	Isolated TO-220		40	35	14m	20m	20m	30m	3400	960
2SK1284/-Z	TO-251/-252	100	3.0	20	0.26	0.32	0.32	0.40	500	20
2SK1285	TO-126		3.0	20	0.26	0.32	0.32	0.40	500	20
2SK1852	MP-10		10	1.8*	0.12	0.15	0.15	0.20	1400	50
2SK1853	MP-10		15	1.8*	70m	80m	80m	0.10	2200	90
2SK1288	Isolated TO-220		15	30	0.12	0.15	0.15	0.20	1400	50
2SK1289/-S/-ZJ	TO-220/-262/-263		20	60	0.12	0.15	0.15	0.20	1400	50
2SK1292	Isolated TO-220		20	35	70m	80m	80m	0.10	2200	90
2SK1293/-S/-ZJ	TO-220/-262/-263		30	75	70m	80m	80m	0.10	2200	90
2SK1295	Isolated TO-220		30	35	42m	50m	50m	70m	3300	200
2SK1122	TO-3P		40	100	42m	50m	50m	70m	3300	200
2SK2131	Isolated TO-220	150	15	35	0.10	0.12	0.13	0.20	2300	140

*:T_A=25°C

○ N6-H Series

★ Under Development

Type No.	Package	Rating			Characteristics			
		V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T (W)	$R_{DS(on)}@V_{GS}$=10V		C_{ISS} (pF)	C_{rss} (pF)
					TYP.(Ω)	MAX.(Ω)		
2SK3108	Isolated TO-220	200	8	25	0.33	0.4	400	55
2SK3109/-S/-ZJ	TO-220/262/-263		10	50	0.33	0.4	400	55
2SK3110	Isolated TO-220		14	35	0.12	0.18	1000	150
2SK3111/-S/-ZJ	TO-220/262/-263		20	65	0.12	0.18	1000	150
2SK3112/-S/-ZJ★	TO-220/262/-263		25	70	0.076	0.11	1600	280
2SK3294/-S/-ZJ★	TO-220/262/-263	250	20	70	0.12	0.16	1600	280

○ N5-H Series

★Under Development

Type No.	Package	Rating			Characteristics			
		V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T (W)	$R_{DS(on)}@V_{GS}$=10V		C_{ISS} (pF)	C_{rss} (pF)
					TYP.(Ω)	MAX.(Ω)		
2SK3113/-Z	TO-251/-252	600	2	20	3.3	4.4	290	5
2SK3221	Isolated TO-220		2	25	3.3	4.4	290	5
2SK3114	Isolated TO-220		4	30	1.7	2.2	550	13
2SK3297	Isolated TO-220		5	35	1.3	1.6	750	9.7
2SK3322/-S/-ZJ	TO-220/262/-263		5.5	65	1.7	2.2	550	13
2SK3115	Isolated TO-220		6	35	0.9	1.2	1100	20
2SK3116/-S/-ZJ	TO-220/262/-263		7.5	70	0.9	1.2	1100	20
2SK3298	Isolated TO-220		7.5	40	0.68	0.75	1580	25
2SK3299/-S/-ZJ	TO-220/262/-263		10	75	0.68	0.75	1580	25
2SK3327/-S/-ZJ★	TO-220/262/-263	450	10	65	—	0.65	1500	—
2SK3328/-S/-ZJ★	TO-220/262/-263		10	72	—	0.5	1400	—
2SK3305/-S/-ZJ★	TO-220/262/-263	500	5	50	—	1.5	550	—
2SK3306★	Isolated TO-220		5	35	—	1.5	550	—
2SK3325/-S/-ZJ★	TO-220/262/-263		10	70	—	0.85	1050	—
2SK3326★	Isolated TO-220		10	38	—	0.85	1050	—
2SK3304★	TO-3P	900	7	120	—	2.0	1600	—
2SK3324★	TO-3P		6	100	—	2.8	1000	—

○ N4-H Series

Type No.	Package	Rating			Characteristics			
		V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T (W)	$R_{DS(on)}@V_{GS}$=10V		C_{ISS} (pF)	C_{rss} (pF)
					TYP.(Ω)	MAX.(Ω)		
2SK1954/-Z	TO-251/-252	180	4.0	20	0.52	0.65	300	50
2SK2132	MP-10		4.0	1.8*	0.52	0.65	300	50
2SK2341	Isolated TO-220	250	11	35	0.21	0.26	1100	190
2SK2133/-S/-ZJ	TO-220/-262/263		16	75	0.21	0.26	1090	80
2SK2353	Isolated TO-220	450	4.5	30	1.0	1.4	670	18
2SK2355/-S/-ZJ	TO-220/-262/263		5.0	50	1.0	1.4	670	18
2SK2357	Isolated TO-220		6.0	35	0.7	0.9	1050	26
2SK2359/-S/-ZJ	TO-220/-262/263		7.0	75	0.7	0.9	1050	26
2SK2361	TO-3P		10	100	0.7	0.9	1050	26
2SK2363	Isolated TO-220		8.0	35	0.4	0.5	1650	40
2SK2365/-S/-ZJ	TO-220/-262/263		10	75	0.4	0.5	1650	40
2SK2367	TO-3P		15	120	0.4	0.5	1650	40
2SK2369	TO-3P		20	120	0.28	0.40	1850	67
2SK2371	TO-3P		25	160	0.20	0.25	2500	80
2SK2354	Isolated TO-220	500	4.5	30	1.1	1.5	670	18
2SK2356/-S/-ZJ	TO-220/-262/263		5.0	50	1.1	1.5	670	18
2SK2358	Isolated TO-220		6.0	35	0.8	1.0	1050	26
2SK2360/-S/-ZJ	TO-220/-262/263		7.0	75	0.8	1.0	1050	26
2SK2362	TO-3P		10	100	0.8	1.0	1050	26
2SK2364	Isolated TO-220		8.0	35	0.5	0.6	1650	40
2SK2366/-S/-ZJ	TO-220/-262/263		10	75	0.5	0.6	1650	40
2SK2368	TO-3P		15	120	0.5	0.5	1650	40
2SK2370	TO-3P		20	120	0.32	0.40	1850	67
2SK2372	TO-3P		25	160	0.22	0.27	2500	80

*:T_A=25°C

○ N4-H Series

Type No.	Package	Ratings			Characteristics			
		V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T (W)	$R_{DS(on)}$ @V_{GS}=10V TYP.(Ω)	$R_{DS(on)}$ @V_{GS}=10V MAX.(Ω)	C_{iss} (pF)	Q_g (nC)
2SK2476	Isolated TO-220	800	3.0	40	3.4	5.0	590	20
2SK2477	TO-3P		10	150	0.65	1.0	2950	90
2SK2478	Isolated TO-220	900	2.0	30	5.0	7.5	485	17
2SK2479/-S/-ZJ	TO-220/-262/-263		3.0	70	5.6	7.5	485	17
2SK2480	Isolated TO-220		3.0	35	3.2	4.0	900	30
2SK2481/-S/-ZJ	TO-220/-262/-263		4.0	75	3.2	4.0	900	30
2SK2482	TO-3P		5.0	100	3.2	4.0	900	30
2SK2483	Isolated TO-220		3.5	40	2.2	2.8	1200	40
2SK2484/-S/-ZJ	TO-220/-262/-263		5.0	75	2.2	2.8	1200	40
2SK2485	TO-3P		6.0	100	2.2	2.8	1200	40
2SK2486	TO-3P		7.0	120	1.4	2.0	1830	55
2SK2487	TO-3P		8.0	140	1.1	1.6	2100	65
2SK2488	TO-3P		10	160	1.0	1.2	2900	90

○ P4-H Series

Type No.	Package	Ratings			Characteristics			
		V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T (W)	$R_{DS(on)}$ @V_{GS}=10V TYP.(Ω)	$R_{DS(on)}$ @V_{GS}=10V MAX.(Ω)	C_{iss} (pF)	C_{rss} (pF)
2SJ448	Isolated TO-220	-250	∓4.0	30	1.5	2.0	420	30
2SJ449	Isolated TO-220		∓6.0	35	0.55	0.8	1050	70

○ N3-H Series

Type No.	Package	Rating			Characteristics			
		V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T (W)	$R_{DS(on)}$@V_{GS}=10V TYP.(Ω)	$R_{DS(on)}$@V_{GS}=10V MAX.(Ω)	C_{ISS} (pF)	C_{rss} (pF)
2SK1491	TO-3P	250	25	120	0.12	0.15	1950	410
2SK1492	TO-3P		35	150	0.08	0.10	3000	620

○ Semi Power Series

Type No.	Rating(T_A=25°C)			Characteristics(T_A=25°C)			Package	Remark
	V_{DSS} (V)	$I_{D(DC)}$ (A)	P_T (W)	$V_{GS(on)}$ MAX.(V)	$R_{DS(on)}$ MAX.(Ω)	$\|y_{fs}\|$ MIN.(S)		
2SK1583	16	±0.5	2.0	1.6	2.0	0.4	SC-62	B2
2SK1585	16	±1.0	2.0	1.6	1.2	0.4	SC-62	B2
2SK1959	16	±2.0	2.0	1.1	3.2	1.0	SC-62	B1
2SK1587	16	±2.0	2.0	1.6	0.8	0.4	SC-62	B2
2SK1960	16	±3.0	2.0	1.1	0.8	2.0	SC-62	B1
2SK1588	16	±3.0	2.0	1.6	0.5	0.4	SC-62	B2
2SK2053	16	±5.0	2.0	1.1	0.4	2.0	MP-2	B1
2SK1584	30	±0.5	2.0	2.0	2.0	0.4	SC-62	
2SK680A	30	±1.0	1.0	2.5	1.0	0.4	SC-62	
2SK681A	30	±1.0	1.0	2.5	1.0	0.4	SP-8	
2SK1586	30	±1.0	2.0	2.0	1.0	0.4	SC-62	
2SK1483	30	±2.0	2.0	2.0	0.8	0.4	SC-62	
2SK2157	30	±5.0	2.0	2.0	0.15	0.4	MP-2	
2SK1592	60	±0.5	2.0	2.0	2.5	0.4	SC-62	
2SK2109	60	±0.5	2.0	2.0	1.0	0.45	SC-62	
2SK2111	60	±1.0	2.0	2.0	0.6	0.4	SC-62	
2SK1274	60	±1.5	1.0	2.5	1.0	0.4	SP-8	
2SK1273	60	±2.0	2.0	2.5	1.0	0.4	SC-62	
2SK2159	60	±2.0	2.0	1.1	0.7	0.4	SC-62	B1
2SK2054	60	±3.0	2.0	2.0	0.25	2.0	MP-2	
2SK1593	100	±0.5	2.0	2.0	6.0	0.4	SC-62	
2SK2110	100	±0.5	2.0	2.0	1.5	0.4	SC-62	
2SK1485	100	±1.0	2.0	2.0	1.2	0.4	SC-62	
2SK2112	100	±1.0	2.0	2.0	1.2	0.4	SC-62	
2SK2070	100	±1.5	1.0	2.0	0.45	2.0	SP-8	
2SK2055	100	±2.0	2.0	2.0	0.45	2.0	MP-2	
2SK2857	60	±4.0	2.0	2.0	0.22	1.0	SC-62	
2SJ462	-12	∓2.5	2.0	-1.3	0.29	1.5	MP-2	B2
2SJ205	-16	∓0.5	2.0	-2.4	5.0	0.4	SC-62	B2
2SJ207	-16	∓1.0	2.0	-2.4	4.0	0.4	SC-62	B2
2SJ208	-16	∓2.0	2.0	-2.4	3.0	0.4	SC-62	B2
2SJ206	-30	∓0.5	2.0	-3.0	4.0	0.4	SC-62	
2SJ180	-30	∓1.0	1.0	-3.0	1.5	0.4	SP-8	
2SJ179	-30	∓1.5	2.0	-3.0	1.5	0.4	SC-62	
2SJ355	-30	∓2.0	2.0	-2.0	0.60	1.0	SC-62	
2SJ357	-30	∓3.0	2.0	-2.0	0.35	2.0	MP-2	
2SJ411	-30	∓5.0	1.0	-2.0	0.24	3.0	SP-8	
2SJ212	-60	∓0.5	2.0	-3.0	4.0	0.4	SC-62	
2SJ197	-60	∓1.5	2.0	-3.0	1.5	0.4	SC-62	
2SJ353	-60	∓1.5	1.0	-2.0	0.68	1.0	SP-8	
2SJ356	-60	∓2.0	2.0	-2.0	0.95	1.0	SC-62	
2SJ358	-60	∓3.0	2.0	-2.0	0.40	2.0	MP-2	
2SJ213	-100	∓0.5	2.0	-3.0	5.0	0.4	SC-62	
2SJ119	-100	∓1.0	2.0	-3.0	2.0	0.4	SC-62	

B1 for Battery (1.5 V), B2 for Battery(2.5 V)
$R_{DS(on)}$:B1——V_{GS}=1.5V
B2——V_{GS}=2.5/−2.5V
Otherwise——V_{GS}=4.0/−4.0V

○ Array Series

① 10-pin SIP Array Series

Type No.	Ratings				Charactaritics(T_A=25°C)					
	V_{DSS} (V)	$I_{D(DC)}$ (A)	$I_{D(pulse)}$ (A)	P_T (W)	V_{GS}	I_D	R_{on} (Ω)	C_{iss} (pF)	C_{oss} (pF)	C_{rss} (pF)
μPA1520BH	30	±2.0	±8.0	3.5	4.0	1.0	0.25	220	220	90
μPA1522H	60	±2.0	±8.0	3.5	4.0	0.8	0.35	550	200	60
μPA1523BH	-60	∓2.0	∓8.0	3.5	-4.0	-1.0	1.3	190	115	43
μPA1524H	80	±2.0	±6.0	3.5	4.0	1.0	1.0	200	70	15
μPA1526H	100	±2.0	±8.0	3.5	4.0	0.8	0.6	500	120	30
μPA1527H	-100	∓2.0	∓8.0	3.5	-4.0	-0.8	1.5	1000	200	25
μPA1550H	30	±5.0	±20	3.5	4.0	3.0	0.15	900	400	100
μPA1552BH	60	±5.0	±20	3.5	4.0	3.0	0.24	200	150	55
μPA1556AH	100	±5.0	±20	3.5	4.0	3.0	0.33	300	190	20
μPA1560H	120	±3.0	±12	3.7	4.0	1.5	1.2	600	160	70
μPA1572BH	60	±2.0	±6.0	3.0	4.0	1.0	0.8	110	70	25
μPA1576H	100	±2.0	±6.0	3.5	4.0	1.0	1.5	200	70	15

AH,BH : with Built in Gate Protection Diode

② 12-pin SIP Array Series

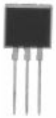
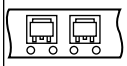
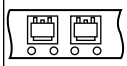
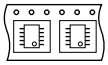
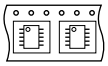
Type No.	Ratings				Charactaritics(T_A=25°C)					
	V_{DSS} (V)	$I_{D(DC)}$ (A)	$I_{D(pulse)}$ (A)	P_T (W)	V_{GS}	I_D	R_{on} (Ω)	C_{iss} (pF)	C_{oss} (pF)	C_{rss} (pF)
μPA1500BH	60	±3.0	±12	4.0	4.0	2.0	0.24	200	150	55
μPA1501H	120	±3.0	±12	4.0	4.0	2.0	0.65	620	140	10

③ Monolithic Array Series

Type No.	Package	Rating(T_A=25°C)				Characteristics					Circuits
		V_O (V)	$I_{D(DC)}$ (A)	$I_{D(pulse)}$ (A)	P_T (W)	V_{GS}	I_D	R_{on} (Ω)	C_{iss} (pF)	C_{rss} (pF)	
μPA1600CX	20-pin Plastic DIP (300mil)	30	±500	–	1.0	4.0	0.1	4.0	28	13	8
μPA1600GS	20-pin Plastic SOP (300mil)	30	±500	–	1.0	4.0	0.1	4.0	28	13	8
μPA1601CX	16-pin Plastic DIP (300mil)	30	±430	±500	1.0	4.0	0.15	5.3	20	6	7
μPA1601GS	16-pin Plastic SOP (300mil)	30	±430	±500	1.0	4.0	0.15	5.3	20	6	7
μPA1602CX	16-pin Plastic DIP (300mil)	30	±430	±500	1.0	4.0	0.15	5.3	10	–	7
μPA1602GS	16-pin Plastic SOP (300mil)	30	±430	±500	1.0	4.0	0.15	5.3	10	–	7
μPA1603CX	16-pin Plastic DIP (300mil)	30	±870	±1500	1.0	4.0	0.6	1.3	70	10	4
μPA1602GS	16-pin Plastic DIP (300mil)	30	±870	±1500	1.0	4.0	0.6	1.3	20	–	4

NEC Power MOS FET Packages

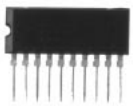
○ Power MOS FET

Package	TO-251 (MP-3)	TO-252 (MP-3Z)	TO-126 (MP-5)	Power SOP8	TO-220				
					TO-220 (MP-25)	TO-263 (MP-25ZJ)	TO-262 (MP-25 Fin Cut)	MP-10	Isolated TO220 (MP-45F)
Outline								 Full Mold	 Full Mold
Packing Quantity	bag (loose): 500*pcs	reel: 2000pcs	bag (loose): 200*pcs	reel: 2500pcs	bag (loose): 500*pcs	reel: 800pcs	bag (loose): 500*pcs	tape: 1000pcs	bag (loose): 200*pcs
Taping information	—	 E1 TYPE  E2 TYPE	—	 E1 TYPE  E2 TYPE	—	 E1 TYPE  E2 TYPE	—	-T	—

Note : In case of reel packing please add the suffix -E1, -E2 or -T accordingly

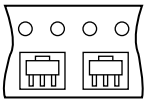
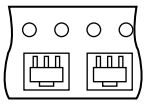
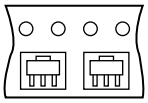
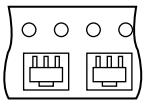
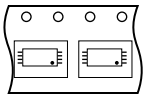
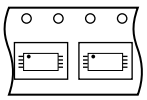
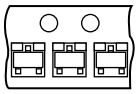
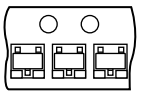
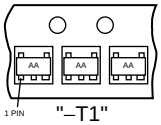
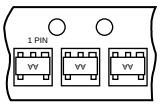
✻ : Bag quantity is rough satandard

○ Power MOS FET, Power MOS FET Array

Package	TO-3P (MP-88)	SIP	
		10pin SIP Array	12pin SIP Array
Outline		 Full Mold 4 Circuits	 Full Mold 4 Circuits
Packing Quantity	bag(Loose): 100*pcs	stick: 20pcs	stick: 17pcs
	—	—	—

✻ : Bag quantity is rough satandard

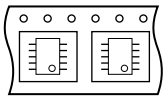
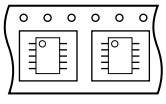
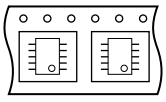
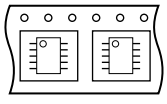
○ Semi Power MOS FET

Package	PC-62 (Power Mini Mold)	SC-84 (MP-2)	SP-8	TSSOP 8pin	SC-96 (Similar to SOT-23)	SC-95 (equal to SOT-6)
Outline						
Packing Quantity	reel: 1000pcs	reel: 1000pcs	bag(loose): 200*pcs	reel: 3000pcs	reel: 3000pcs	reel: 3000pcs
Taping information	 T1 TYPE  T2 TYPE	 T1 TYPE  T2 TYPE	—	 E1 TYPE  E2 TYPE	 T1 TYPE –T1B TYPE*  T2 TYPE –T2B TYPE*	 "–T1"  "–T2"

Note : In case of reel packing please add the suffix -E1, -E2, -T1, -T2, T1B or T2B accordingly

∗ : Bag quantity is rough satandard

○ Monolistic Arrays

Package	DIP		SOP	
	16-pin Plastic DIP (300mil)	20-pin Plastic DIP (300mil)	16-pin Plastic SOP (300mil)	20-pin Plastic SOP (300mil)
Outline				
Packing Quantity	stick: 25pcs	stick: 18pcs	stick:50pcs reel:2500pcs	stick:50pcs reel:2500pcs
Taping information	—	—	 E1 TYPE  E2 TYPE	 E1 TYPE  E2 TYPE

Note : In case of reel packing please add the suffix -E1 or -E2 accordingly

REFERENCE

Document Name	Document No.
NEC semiconductor device reliability / quality control system	C11745E
Quality grade on NEC semiconductor devices	C11531E
Semiconductor device mounting technology manual	C10535E
Semiconductor selection guide	X13769X
Power MOS FET features and application switching power supply	D12971E
Application circuits using Power MOS FET	D12972E
Safe operating area of Power MOS FET	D13085E

M8 98.8

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