TOSHIBA
Leading Innovation

MOSFETs

Selection Guide

2017 December

Contents

I Small Signal MOSFETs

1. Over 500mA Series MOSFETs (Semi-Power Type)

Package Dimensions (unit: mm)

CST3C	CST3 (SOT-883)	CST3B	VESM (SOT-723)	UFM (SOT-323F)	SOT-23F	S-Mini (SOT-346)	ES6 (SOT-563)	UF6 (SOT-363F)	TSOP6F	UDFN6B (SOT-1220)	WCSP6C
Bottom View	Bottom View	Bottom View								Bottom View	Bottom View
											
0.8x0.6	1.0x0.6	1.2x0.8	1.2x1.2	2.0x2.1	2.9x2.4	2.9x2.5	1.6x1.6	2.0x2.1	2.9x2.8	2.0x2.0	1.5x1.0

P-Channel Single MOSFET

Package	Part Number	V_{DSS} (V)	V_{GSS} (V)	I_D (A)	$R_{DS(ON)}$ max (mΩ)							Q_g typ. (nC)	C_{iss} typ. (pF)	Note
					V_{GS}=-1.2V	V_{GS}=-1.5V	V_{GS}=-1.8V	V_{GS}=-2.5V	V_{GS}=-4V	V_{GS}=-4.5V	V_{GS}=-10V			
CST3C	SSM3J64CTC ☆ $	-12	+/-10	-1.0	11300	1310	890	560	-	370	-	-	50	
	SSM3J65CTC ☆ $	-20	+/-10	-0.7	11300	1550	1070	700	-	500	-	-	48	
CST3	SSM3J56ACT ☆ $	-20	+/-8	-1.4	4000	900	660	480	-	390	-	1.6	100	
CST3B	SSM3J46CTB $	-20	+/-8	-2.0	-	250	178	133	-	103	-	4.7	290	
VESM	SSM3J56MFV $	-20	+/-8	-0.8	4000	900	660	480	-	390	-	1.6	100	
WCSP6C	SSM6J771G $	-20	+/-12	-5.0	-	-	-	47.5	-	35	34.7(@-8V) 31(@-8.5V)	9.8	870	
ES6	SSM6J216FE $	-12	+/-8	-4.8	-	88.1	56	39.3	-	32	-	12.7	1040	
	SSM6J213FE $	-20	+/-8	-2.6	-	250	178	133	-	103	-	4.7	290	
	SSM6J215FE $	-20	+/-8	-3.4	-	154	104	79	-	59	-	10.4	630	
	SSM6J212FE $	-20	+/-8	-4.0	-	94	65.4	49	-	40.7	-	14.1	970	
	SSM6J207FE $	-30	+/-20	-1.4	-	-	-	-	491	-	251	-	137	
	SSM6J214FE $	-30	+/-12	-3.6	-	-	149.6	77.6	-	57	50	7.9	560	
UFM	SSM3J132TU $	-12	+/-6	-5.4	94	39	29	21	-	17	-	33	2700	
	SSM3J135TU $	-20	+/-8	-3.0	-	260	180	132	-	103	-	4.6	270	
	SSM3J145TU ☆☆ # $	-20	+6/-8	-3.0	-	260	180	132	-	103	-	4.6	270	
	SSM3J134TU $	-20	+/-8	-3.2	-	240	168	123	-	93	-	4.7	290	
	SSM3J144TU ☆☆ # $	-20	+6/-8	-3.2	-	240	168	123	-	93	-	4.7	290	
	SSM3J120TU ● # $	-20	+/-8	-4.0	-	140	78	49	38	-	-	22.3	1484	⇒ SSM3J133TU
	SSM3J130TU $	-20	+/-8	-4.4	-	63.2	41.1	31	-	25.8	-	24.8	1800	
	SSM3J140TU ☆ # $	-20	+6/-8	-4.4	-	63.2	41.1	31	-	25.8	-	24.8	1800	
	SSM3J133TU $	-20	+/-8	-5.5	-	88.4	56	39.7	-	29.8	-	12.8	840	
	SSM3J143TU ☆☆ # $	-20	+6/-8	-5.5	-	88.4	56	39.7	-	29.8	-	12.8	840	
	SSM3J112TU # $	-30	+/-20	-1.1	-	-	-	-	790	-	390	-	86	
	SSM3J118TU # $	-30	+/-20	-1.4	-	-	-	-	480	-	240	-	137	
	SSM3J117TU # $	-30	+/-20	-2.0	-	-	-	-	225	-	117	-	280	
UF6	SSM6J50TU # $	-20	+/-10	-2.5	-	-	205(@-2V)	100	-	64	-	-	800	
	SSM6J412TU $	-20	+/-8	-4.0	-	99.6	67.8	51.4	-	42.7	-	12.8	840	
	SSM6J414TU $	-20	+/-8	-6.0	-	54	36	26	-	22.5	-	23.1	1650	
	SSM6J402TU # $	-30	+/-20	-2.0	-	-	-	-	225	-	117	5.3	280	
	SSM6J410TU # $	-30	+/-20	-2.1	-	-	-	-	393	-	216	2.9	120	
	SSM6J401TU # $	-30	+/-20	-2.5	-	-	-	-	145	-	73	16	730	

☆ New Products, ☆☆ Under Development (specification might be changed without notice), ● Recommend Another New Product
Available conformable product to AEC-Q101
$ With protection Zener diode between gate and source

Package	Part Number	V_{DSS} (V)	V_{GSS} (V)	I_D (A)	$R_{DS(ON)}$ max (mΩ)							Q_g typ. (nC)	C_{iss} typ. (pF)	Note
					V_{GS}=-1.2V	V_{GS}=-1.5V	V_{GS}=-1.8V	V_{GS}=-2.5V	V_{GS}=-4V	V_{GS}=-4.5V	V_{GS}=-10V			
UDFN6B	SSM6J512NU ☆ $	-12	+/-10	-10.0	-	-	40.1	25.7	20.5(@-3.6V)	18.7	16.2(@-8V)	19.5	1400	
	SSM6J505NU $	-12	+/-6	-12.0	61	30	21	16	-	12	-	37.6	2700	
	SSM6J511NU ☆ $	-12	+/-10	-14.0	-	-	19.2	13.5	11.5(@-3.6V)	10	9.1(@-8V)	47	3350	
	SSM6J503NU $	-20	+/-8	-6.0	-	89.6	57.9	41.7	-	32.4	-	12.8	840	
	SSM6J502NU $	-20	+/-8	-6.0	-	60.5	38.4	28.3	-	23.1	-	24.8	1800	
	SSM6J501NU $	-20	+/-8	-10.0	-	43	26.5	19	-	15.3	-	29.9	2600	
	SSM6J507NU ☆ $	-30	+20/-25	-10.0	-	-	-	-	32	28	20	13.6	1150	
SOT-23F	SSM3J338R $	-12	+/-10	-6.0	-	-	45.3	27.9	21.9(@-3.6V)	20.2	17.6(@-8V)	19.5	1400	
	SSM3J327R $	-20	+/-8	-3.9	-	240	168	123	-	93	-	4.6	290	
	SSM3J377R ☆ # $	-20	+6/-8	-3.9	-	240	168	123	-	93	-	4.6	290	
	SSM3J331R $	-20	+/-8	-4.0	-	150	100	75	-	55	-	10.4	630	
	SSM3J371R ☆ # $	-20	+6/-8	-4.0	-	150	100	75	-	55	-	10.4	630	
	SSM3J328R ● $	-20	+/-8	-6.0	-	88.4	56	39.7	-	29.8	-	12.8	840	⇒ SSM3J355R
	SSM3J378R ☆ # $	-20	+6/-8	-6.0	-	88.4	56	39.7	-	29.8	-	12.8	840	
	SSM3J355R ☆ $	-20	+/-10	-6.0	-	-	52.3	38.8	-	30.1	-	16.6	1030	
	SSM3J358R ☆ $	-20	+/-10	-6.0	-	-	49.3	32.8	27.7(@-3.6V)	25.3	22.1(@-8V)	38.5	1331	
	SSM3J334R $	-30	+/-20	-4.0	-	-	-	-	136	105	71	5.9	280	
	SSM3J374R ☆ # $	-30	+10/-20	-4.0	-	-	-	-	136	105	71	5.9	280	
	SSM3J340R $	-30	+20/-25	-4.0	-	-	-	-	86	73	45	6.2	492	
	SSM3J332R $	-30	+/-12	-6.0	-	-	144	72	-	50	42	8.2	560	
	SSM3J372R ☆ # $	-30	+6/-12	-6.0	-	-	144	72	-	50	42	8.2	560	
	SSM3J356R ☆ # $	-60	+10/-20	-2.0	-	-	-	-	400	360	300	8.3	330	
	SSM3J351R ☆ # $	-60	+10/-20	-3.5	-	-	-	-	184	164	134	15.1	660	
S-Mini	SSM3J325F $	-20	+/-8	-2.0	-	311	231	179	-	150	-	4.6	270	
	SSM3J375F ☆ # $	-20	+6/-8	-2.0	-	311	231	179	-	150	-	4.6	270	
	SSM3J352F ☆ $	-20	+/-12	-2.0	-	-	443	199	-	136	110	5.1	210	
	SSM3J353F ☆ $	-30	+20/-25	-2.0	-	-	-	-	274	232	150	3.4	159	
TSOP6F	SSM6J801R $	-20	+6/-8	-6.0	-	88.4	56	39.7	-	32.5	-	12.8	840	
	SSM6J808R ☆☆ $	-40	+10/-20	-7.0	-	-	-	-	TBD	TBD	TBD	TBD	1105	
	SSM6J811R ☆☆ $	-60	+10/-20	-4.0	-	-	-	-	TBD	200	150	TBD	490	

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$ With protection Zener diode between gate and source

Package Dimensions (unit: mm)

CST3 (SOT-883)	CST3B	VESM (SOT-723)	SSM (SOT-416)	UFM (SOT-323F)	SOT-23F	ES6 (SOT-563)	UF6 (SOT-363F)	TSOP6F	UDFN6B (SOT-1220)	WCSP6C
Bottom View 	Bottom View 								Bottom View 	Bottom View 
1.0x0.6	1.2x0.8	1.2x1.2	1.6x1.6	2.0x2.1	2.9x2.4	1.6x1.6	2.0x2.1	2.9x2.8	2.0x2.0	1.5x1.0

N-Channel Single MOSFET

Package	Part Number	V_{DSS} (V)	V_{GSS} (V)	I_D (A)	$R_{DS(ON)}$ max (mΩ)							Q_g typ. (nC)	C_{iss} typ. (pF)	Note
					V_{GS}=1.2V	V_{GS}=1.5V	V_{GS}=1.8V	V_{GS}=2.5V	V_{GS}=4V	V_{GS}=4.5V	V_{GS}=10V			
CST3	SSM3K56CT ● $	20	+/-8	0.8	-	840	480	300	-	235	-	1.0	55	⇒ SSM3K56ACT
	SSM3K56ACT ☆ $	20	+/-8	1.4	-	840	480	300	-	235	-	1.0	55	
CST3B	SSM3K59CTB ☆ $	40	+/-12	2.0	-	-	420	268	238(@3.6V) 231(@4.2V)	228	215(@8V)	1.1	130	
VESM	SSM3K36MFV # $	20	+/-10	0.5	-	1520	1140	850	-	660	630(@5V)	1.23	46	
	SSM3K56MFV # $	20	+/-8	0.8	-	840	480	300	-	235	-	1.0	55	
WCSP6C	SSM6K781G	12	+/-8	7.0	-	124	47.4	23.2	-	18	-	5.4	600	
SSM	SSM3K36FS ● # $	20	+/-10	0.5	-	1520	1140	850	-	660	630(@5V)	1.23	46	⇒ SSM3K56FS
	SSM3K56FS # $	20	+/-8	0.8	-	840	480	300	-	235	-	1.0	55	
ES6	SSM6K204FE $	20	+/-10	2.0	-	307	214	164	126	-	-	3.4	195	
	SSM6K211FE $	20	+/-10	3.2	-	118	82	59	-	47	-	10.8	510	
	SSM6K24FE $	30	+/-12	0.5	-	-	-	180	-	145	-	-	245	
	SSM6K208FE $	30	+/-12	1.9	-	-	296	177	133	-	-	1.9	123	
	SSM6K202FE $	30	+/-12	2.3	-	-	145	101	85	-	-	-	270	
	SSM6K217FE $	40	+/-12	1.8	-	-	400	248	218(@3.6V) 211(@4.2V)	208	195(@8V)	1.1	130	
UFM	SSM3K36TU # $	20	+/-10	0.5	-	1520	1140	850	-	660	630(@5V)	1.23	46	
	SSM3K62TU ☆ # $	20	+/-8	0.8	432	139	89	68	-	57	-	2.0	177	
	SSM3K122TU # $	20	+/-10	2.0	-	304	211	161	123	-	-	3.4	195	
	SSM3K121TU # $	20	+/-10	3.2	-	140	93	63	48	-	-	5.9	400	
	SSM3K123TU # $	20	+/-10	4.2	-	66	43	32	28	-	-	13.6	1010	
	SSM3K127TU # $	30	+/-12	2.0	-	-	286	167	123	-	-	1.5	123	
	SSM3K116TU # $	30	+/-12	2.2	-	-	-	135	-	100	-	-	245	
	SSM3K131TU #	30	+/-20	6.0	-	-	-	-	-	41.5	27.6	10.1	450	
	SSM3H137TU ☆ # $	34	+/-20	2.0	-	-	-	-	295	280	240	3.0	119	Built-in Active Clamp Zener
	SSM3K2615TU ☆ # $	60	+/-20	2.0	-	-	-	580(@3.3V)	440	-	300	6.0	150	
	SSM3K341TU ☆ # $	60	+/-20	6.0	-	-	-	-	69	51	36	9.3	550	Tch=175°C
	SSM3K361TU ☆ # $	100	+/-20	3.5	-	-	-	-	-	92	69	3.2	430	Tch=175°C
UF6	SSM6K405TU $	20	+/-10	2.0	-	307	214	164	126	-	-	3.4	195	
	SSM6K404TU # $	20	+/-10	3.0	-	147	100	70	55	-	-	5.9	400	
	SSM6K403TU # $	20	+/-10	4.2	-	66	43	32	28	-	-	16.8	1050	
	SSM6K406TU # $	30	+/-20	4.4	-	-	-	-	-	38.5	25	12.4	490	
	SSM6K407TU # $	60	+/-20	2.0	-	-	-	-	440	-	300	6.0	150	
UDFN6B	SSM6K504NU # $	30	+/-20	9.0	-	-	-	-	-	26	19.5	4.8	620	
	SSM6K513NU ☆	30	+/-20	15.0	-	-	-	-	-	12	8.9	7.5	1130	
	SSM6K514NU ☆	40	+/-20	12.0	-	-	-	-	-	17.3	11.6	7.5	1110	
	SSM6K341NU ☆ $	60	+/-20	6.0	-	-	-	-	69	51	36	9.3	550	Tch=175°C
	SSM6K361NU ☆ $	100	+/-20	3.5	-	-	-	-	-	92	69	3.2	430	Tch=175°C
SOT-23F	SSM3K344R ☆ $	20	+/-8	3.0	-	232	139	91	-	71	-	2.0	153	
	SSM3K345R ☆ $	20	+/-8	4.0	-	108	74	45	-	33	-	3.6	410	
	SSM3K336R # $	30	+/-20	3.0	-	-	-	-	-	140	95	1.7	126	
	SSM3K329R # $	30	+/-12	3.5	-	-	289	170	126	-	-	1.5	123	
	SSM3K324R $	30	+/-12	4.0	-	-	109	72	-	56	-	2.2	200	
	SSM3K333R #	30	+/-20	6.0	-	-	-	-	-	42	28	3.4	436	
	SSM3K335R # $	30	+/-20	6.0	-	-	-	-	-	56	38	2.7	340	
	SSM3K347R ☆ # $	38	+/-20	2.0	-	-	-	-	480	410	340	2.5	86	Built-in Active Clamp Zener
	SSM3K337R # $	38	+/-20	2.0	-	-	-	-	200	176	150	3.0	120	Built-in Active Clamp Zener
	SSM3K339R $	40	+/-12	2.0	-	-	390	238	208(@3.6V) 201(@4.2V)	198	185(@8V)	1.1	130	
	SSM3K357R ☆ # $	60	+/-12	0.65	-	-	-	2400(@3V)	-	1800(@5V)	-	1.5	43	Built-in Active Clamp Zener
	SSM3K2615R ☆ # $	60	+/-20	2.0	-	-	-	580(@3.3V)	440	-	300	6.0	150	
	SSM3K318R ☆ # $	60	+/-20	2.5	-	-	-	-	-	145	107	7.0	235	
	SSM3K341R ☆ # $	60	+/-20	6.0	-	-	-	-	69	51	36	9.3	550	Tch=175°C
	SSM3K361R ☆ # $	100	+/-20	3.5	-	-	-	-	-	92	69	3.2	430	Tch=175°C
TSOP6F	SSM6K810R ☆☆ $	100	+/-20	3.5	-	-	-	-	-	92	69	3.2	430	

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Package Dimensions (unit: mm)

ESV (SOT-553)	UFV (SOT-353F)	ES6 (SOT-563)	UF6 (SOT-363F)	US6 (SOT-363)	UDFN6 (SOT-1118)	TSOP6F
					Bottom View 	
1.6x1.6	2.0x2.1	1.6x1.6	2.0x2.1	2.0x2.1	2.0x2.0	2.9x2.8

Dual MOSFET

Package	Polarity	Part Number	V_{DSS} (V)	V_{GSS} (V)	I_D (A)	$R_{DS(ON)}$ max (mΩ)							Q_g typ. (nC)	C_{iss} typ. (pF)	Note
						$\|V_{GS}\|$= 1.2V	$\|V_{GS}\|$= 1.5V	$\|V_{GS}\|$= 1.8V	$\|V_{GS}\|$= 2.5V	$\|V_{GS}\|$= 4V	$\|V_{GS}\|$= 4.5V	$\|V_{GS}\|$= 10V			
ES6	P-ch x 2	SSM6P41FE $	-20	+/-8	-0.72	-	1040	670	440	-	300	-	1.76	110	
	N-ch x 2	SSM6N36FE # $	20	+/-10	0.5	-	1520	1140	850	-	660	630(@5V)	1.2	46	
		SSM6N56FE ☆ # $	20	+/-8	0.8	-	840	480	300	-	235	-	1.0	55	
	N-ch + P-ch	SSM6L14FE # $	20	+/-10	0.8	-	600	450	330	-	240	-	2.0	90	
			-20	+/-8	-0.72	-	1040	670	440	-	300	-	1.76	110	
		SSM6L36FE # $	20	+/-10	0.5	-	1520	1140	850	-	660	630(@5V)	1.23	46	
			-20	+/-8	-0.33	-	3600	2700	1600(@-2.8V)	-	1310	-	1.2	43	
UDFN6	P-ch x 2	SSM6P47NU # $	-20	+/-8	-4.0	-	242	170	125	-	95	-	4.6	290	
		SSM6P49NU # $	-20	+/-12	-4.0	-	-	157	76	-	56	45	6.74	480	
	N-ch x 2	SSM6N61NU ☆ # $	20	+/-8	4.0	-	108	74	45	-	33	-	3.6	410	
		SSM6N55NU # $	30	+/-20	4.0	-	-	-	-	-	64	46	2.5	280	
		SSM6N57NU # $	30	+/-12	4.0	-	-	82	53	-	39.1	-	3.2	310	
		SSM6N58NU # $	30	+/-12	4.0	-	-	180	117	-	84	-	1.8	129	
	N-ch + P-ch	SSM6L61NU # $	20	+/-8	4.0	-	108	74	45	-	33	-	3.6	410	
			-20	+/-12	-4.0	-	-	157	76	-	56	45	6.74	480	
UF6	P-ch x 2	SSM6P54TU # $	-20	+/-8	-1.2	-	555	350	228	-	-	-	7.7	331	
		SSM6P39TU # $	-20	+/-8	-1.5	-	-	430	294	213	-	-	6.4	250	
		SSM6P40TU # $	-30	+/-20	-1.4	-	-	-	-	403	-	226	2.9	120	
	N-ch x 2	SSM6N36TU # $	20	+/-10	0.5	-	1520	1140	850	-	660	630(@5V)	1.23	46	
		SSM6N62TU # $	20	+/-8	0.8	456	173	120	98	-	85	-	2.0	177	
		SSM6N39TU # $	20	+/-10	1.6	-	247	190	139	119	-	-	7.5	260	
		SSM6N24TU # $	30	+/-12	0.5	-	-	-	180	-	145	-	-	245	
		SSM6N40TU # $	30	+/-20	1.6	-	-	-	-	182	-	122	5.1	180	
	N-ch + P-ch	SSM6L36TU # $	20	+/-10	0.5	-	1520	1140	850	-	660	630(@5V)	1.23	46	
			-20	+/-8	-0.33	-	3600	2700	1600(@-2.8V)	-	1310	-	1.2	43	
		SSM6L39TU # $	20	+/-10	1.6	-	247	190	139	119	-	-	7.5	260	
			-20	+/-8	-1.5	-	-	430	294	213	-	-	6.4	250	
		SSM6L12TU # $	30	+/-12	0.5	-	-	-	180	-	145	-	-	245	
			-20	+/-12	-0.5	-	-	-	430	260	-	-	-	218	
		SSM6L40TU # $	30	+/-20	1.6	-	-	-	-	182	-	122	5.1	180	
			-30	+/-20	-1.4	-	-	-	-	403	-	226	2.9	120	
US6	N-ch x 2	SSM6N43FU # $	20	+/-10	0.5	-	1520	1140	850	-	660	630(@5V)	1.23	46	
TSOP6F	N-ch x 2	SSM6N357R☆☆ # $	60	+/-12	0.65	-	-	-	2400(@3V)	-	1800(@5V)	-	1.5	43	Built-in Active Clamp Zener
		SSM6N815R ☆ $	100	+/-20	2.0	-	-	-	-	180	142	103	3.1	290	
		SSM6N813R☆☆ # $	100	+/-20	3.5	-	-	-	-	TBD	154	112	TBD	242	

☆ New Products, ☆☆ Under Development (specification might be changed without notice)
Available conformable product to AEC-Q101, $ With protection Zener diode between gate and source

MOSFET with Diode

Package	Polarity	Part Number	V_{DSS} (V)	V_{GSS} (V)	I_D (A)	MOSFET								Diode				Note
						$R_{DS(ON)}$ max (mΩ)							C_{iss} typ. (pF)	V_R (V)	I_O (A)	V_F max (V)		
						$\|V_{GS}\|$= 1.5V	$\|V_{GS}\|$= 1.8V	$\|V_{GS}\|$= 2.5V	$\|V_{GS}\|$= 4V	$\|V_{GS}\|$= 4.5V	$\|V_{GS}\|$= 5V	$\|V_{GS}\|$= 10V				@I_F (A)	
ESV	P-ch + SBD	SSM5G06FE $	-20	+/-10	-0.1	45000	-	12000	8000	-	-	-	11	12	0.1	0.5	0.1	
	N-ch + SBD	SSM5H06FE $	20	+/-10	0.1	15000	-	4000	3000	-	-	-	9.3	12	0.1	0.5	0.1	
UFV	P-ch + SBD	SSM5G02TU $	-12	+/-12	-1.0	-	-	240	160	-	-	-	310	12	0.5	0.43	0.5	
		SSM5G09TU $	-12	+/-8	-1.5	-	-	200	130	-	-	-	550	12	0.5	0.43	0.5	
		SSM5G11TU $	-30	+/-20	-1.4	-	-	-	403	-	-	226	120	30(¥)	0.7(¥¥)	0.44	0.7(¥¥)	
	N-ch + SBD	SSM5H08TU $	20	+/-12	1.5	-	-	220	160	-	-	-	125	20	0.5	0.43(typ.)	0.5	
		SSM5H01TU $	30	+/-20	1.4	-	-	-	450	-	-	200	106	20	0.5	0.43(typ.)	0.5	
		SSM5H11TU $	30	+/-20	1.6	-	-	-	182	-	-	122	180	30(¥)	0.7(¥¥)	0.44	0.7	
		SSM5H16TU $	30	+/-12	1.9	-	296	177	133	-	-	-	123	30	0.8	0.55	0.8	
	N-ch + Switching Diode	SSM5H90ATU $	20	+/-10	2.4	-	-	89	65	-	-	-	200	80	0.1	1.2	0.1	
UDFN6	P-ch + SBD	SSM6G18NU $	-20	+/-8	-2.0	261	185	143	-	112	-	-	270	30	1	0.58	1	
	N-ch + SBD	SSM6H19NU $	40	+/-12	2.0	-	390	238	208(@3.6V) 201(@4.2V)	198	-	185(@8V)	130	40	0.5	0.57	0.5	

$ With protection Zener diode between gate and source
¥ V_{RRM}, ¥¥ $I_{F(AV)}$

2. Less than 500mA Series MOSFETs (Standard Type)

Package Dimensions (unit: mm)

CST3C	CST3 (SOT-883)	VESM (SOT-723)	SSM (SOT-416)	UFM (SOT-323F)	USM (SOT-323)	SOT23 (SOT23)	S-Mini (SOT-346)
Bottom View	Bottom View						
							
0.8x0.6	1.0x0.6	1.2x1.2	1.6x1.6	2.0x2.1	2.0x2.1	2.9x2.4	2.9x2.5

P-Channel Single MOSFET

Package	Part Number	V_{DSS} (V)	V_{GSS} (V)	I_D (A)	$R_{DS(ON)}$ max (Ω)							Note
					V_{GS}=-1.2V	V_{GS}=-1.5V	V_{GS}=-1.8V	V_{GS}=-2.5V	V_{GS}=-4V	V_{GS}=-4.5V	V_{GS}=-10V	
CST3C	SSM3J35CTC ☆ $	-20	+/-10	-0.25	20	4	2.9	2.1	-	1.4	-	
CST3	SSM3J35CT $	-20	+/-10	-0.1	44	22	-	11	8	-	-	
	SSM3J15CT $	-30	+/-20	-0.1	-	-	-	32	12	-	-	
VESM	SSM3J35MFV ● # $	-20	+/-10	-0.1	44	22	-	11	8	-	-	⇒ SSM3J56MFV
	SSM3J16FV ● # $	-20	+/-10	-0.1	-	45	-	12	8	-	-	⇒ SSM3J56MFV
	SSM3J35AMFV ☆ $	-20	+/-10	-0.25	20	4	2.9	2.1	-	1.4	-	
	SSM3J15FV # $	-30	+/-20	-0.1	-	-	-	32	12	-	-	
SSM	SSM3J35FS # $	-20	+/-10	-0.1	44	22	-	11	8	-	-	
	SSM3J35AFS ☆ $	-20	+/-10	-0.25	20	4	2.9	2.1	-	1.4	-	
	SSM3J36FS # $	-20	+/-8	-0.33	-	3.6	2.7	1.6(@-2.8V)	-	1.31	-	
	SSM3J15FS # $	-30	+/-20	-0.1	-	-	-	32	12	-	-	
UFM	SSM3J36TU # $	-20	+/-8	-0.33	-	3.6	2.7	1.6(@-2.8V)	-	1.31	-	
	SSM3J168TU ☆☆ # $	-60	+10/-20	-0.4	-	-	-	-	2	1.9	1.55	
USM	SSM3J16FU # $	-20	+/-10	-0.1	-	45	-	12	8	-	-	
	SSM3J15FU # $	-30	+/-20	-0.1	-	-	-	32	12	-	-	
	SSM3J09FU # $	-30	+/-20	-0.2	-	-	-	6(@-3.3V)	4.2	-	2.7	
S-Mini	SSM3J15F # $	-30	+/-20	-0.1	-	-	-	32	12	-	-	
	2SJ168 ● $	-60	+/-20	-0.2	-	-	-	-	-	-	2	⇒ SSM3J168F
	SSM3J168F ☆ # $	-60	+10/-20	-0.4	-	-	-	-	2	1.9	1.55	

☆ New Products, ☆☆ Under Development (specification might be changed without notice), ● Recommend Another New Product
Available conformable product to AEC-Q101, $ With protection Zener diode between gate and source

N-Channel Single MOSFET

Package	Part Number	V_{DSS} (V)	V_{GSS} (V)	I_D (A)	$R_{DS(ON)}$ max (Ω)								Note
					V_{GS}=1.2V	V_{GS}=1.5V	V_{GS}=1.8V	V_{GS}=2.5V	V_{GS}=4V	V_{GS}=4.5V	V_{GS}=5V	V_{GS}=10V	
CST3C	SSM3K16CTC ☆ $	20	+/-10	0.2	-	5.6	4	3	-	2.2	-	-	
	SSM3K35CTC ☆ $	20	+/-10	0.25	9	3.1	2.4	1.6	-	1.1	-	-	
	SSM3K15ACTC ☆ $	30	+/-20	0.1	-	-	-	6	3.6	-	-	-	
	SSM3K72CTC ☆ $	60	+/-20	0.15	-	-	-	5.7(typ.)	-	4.7	4.4	3.9	
CST3	SSM3K16CT ● $	20	+/-10	0.1	-	15	-	4	3	-	-	-	⇒ SSM3K37CT
	SSM3K35CT $	20	+/-10	0.18	20	8	-	4	3	-	-	-	
	SSM3K37CT $	20	+/-10	0.2	-	5.6	4.05	3.02	-	2.2	-	-	
	SSM3K15ACT $	30	+/-20	0.1	-	-	-	6	3.6	-	-	-	
	SSM3K72KCT ☆ $	60	+/-20	0.4	-	-	-	-	-	1.75	1.65	1.5	
VESM	SSM3K16FV ● # $	20	+/-10	0.1	-	15	-	4	3	-	-	-	⇒ SSM3K37MFV
	SSM3K35MFV # $	20	+/-10	0.18	20	8	-	4	3	-	-	-	
	SSM3K37MFV $	20	+/-10	0.25	-	5.6	4.05	3.02	-	2.2	-	-	
	SSM3K35AMFV ☆ $	20	+/-10	0.25	9	3.1	2.4	1.6	-	1.1	-	-	
	SSM3K15AMFV $	30	+/-20	0.1	-	-	-	6	3.6	-	-	-	
	SSM3K44MFV # $	30	+/-20	0.1	-	-	-	7	4	-	-	-	
SSM	SSM3K16FS ● # $	20	+/-10	0.1	-	15	-	4	3	-	-	-	⇒ SSM3K37FS
	SSM3K35FS # $	20	+/-10	0.18	20	8	-	4	3	-	-	-	
	SSM3K37FS $	20	+/-10	0.2	-	5.6	4.05	3.02	-	2.2	-	-	
	SSM3K35AFS ☆ $	20	+/-10	0.25	9	3.1	2.4	1.6	-	1.1	-	-	
	SSM3K44FS # $	30	+/-20	0.1	-	-	-	7	4	-	-	-	
	SSM3K15AFS $	30	+/-20	0.1	-	-	-	6	3.6	-	-	-	
	SSM3K72CFS $	60	+/-20	0.17	-	-	-	-	-	4.7	4.4	3.9	
	SSM3K72KFS ☆ # $	60	+/-20	0.3	-	-	-	-	-	1.75	1.65	1.5	
USM	SSM3K16FU # $	20	+/-10	0.1	-	15	-	4	3	-	-	-	
	SSM3K15AFU $	30	+/-20	0.1	-	-	-	6	3.6	-	-	-	
	SSM3K48FU $	30	+/-20	0.1	-	-	-	5.4	3.2	-	-	-	
	SSM3K09FU # $	30	+/-20	0.4	-	-	-	1.7(@3.3V)	1.2	-	-	0.7	
	SSM3K17FU # $	50	+/-7	0.1	-	-	-	40	20	-	-	-	
	SSM3K7002CFU ☆ $	60	+/-20	0.17	-	-	-	-	-	4.7	4.4	3.9	
	SSM3K7002KFU ☆ # $	60	+/-20	0.4	-	-	-	-	-	1.75	1.65	1.5	
SOT23	T2N7002AK ☆ $	60	+/-20	0.2	-	-	-	-	-	4.7	4.4	3.9	
	T2N7002BK ☆ $	60	+/-20	0.4	-	-	-	-	-	1.75	1.65	1.5	
S-Mini	SSM3K15F # $	30	+/-20	0.1	-	-	-	7	4	-	-	-	
	SSM3K7002KF ☆ # $	60	+/-20	0.4	-	-	-	-	-	1.75	1.65	1.5	

☆ New Products, ● Recommend Another New Product
Available conformable product to AEC-Q101, $ With protection Zener diode between gate and source

Package Dimensions (unit: mm)

ESV (SOT-553)	ES6 (SOT-563)	USV (SOT-353)	UF6 (SOT-363F)	US6 (SOT-363)
				
1.6x1.6	1.6x1.6	2.0x2.1	2.0x2.1	2.0x2.1

Dual MOSFET

Package	Polarity	Part Number	V_{DSS} (V)	V_{GSS} (V)	I_D (A)	$R_{DS(ON)}$ max (Ω)								Note
						$\|V_{GS}\|$= 1.2V	$\|V_{GS}\|$= 1.5V	$\|V_{GS}\|$= 1.8V	$\|V_{GS}\|$= 2.5V	$\|V_{GS}\|$= 4V	$\|V_{GS}\|$= 4.5V	$\|V_{GS}\|$= 5V	$\|V_{GS}\|$= 10V	
ESV	P-ch x 2	SSM5P16FE $	-20	+/-10	-0.1	-	45	-	12	8	-	-	-	
	N-ch x 2	SSM5N16FE $	20	+/-10	0.1	-	15	-	4	3	-	-	-	
		SSM5N15FE $	30	+/-20	0.1	-	-	-	7	4	-	-	-	
ES6	P-ch x 2	SSM6P35FE # $	-20	+/-10	-0.1	44	22	-	11	8	-	-	-	
		SSM6P35AFE ☆ $	-20	+/-10	-0.25	20	4	2.9	2.1	-	1.4	-	-	
		SSM6P36FE # $	-20	+/-8	-0.33	-	3.6	2.7	1.6(@-2.8V)	-	1.31	-	-	
		SSM6P15FE # $	-30	+/-20	-0.1	-	-	-	32	12	-	-	-	
	N-ch x 2	SSM6N16FE ● # $	20	+/-10	0.1	-	15	-	4	3	-	-	-	⇒ SSM6N37FE
		SSM6N35FE # $	20	+/-10	0.18	20	8	-	4	3	-	-	-	
		SSM6N37FE $	20	+/-10	0.25	-	5.6	4.05	3.02	-	2.2	-	-	
		SSM6N35AFE ☆ $	20	+/-10	0.25	9	3.1	2.4	1.6	-	1.1	-	-	
		SSM6N44FE # $	30	+/-20	0.1	-	-	-	7	4	-	-	-	
		SSM6N15AFE $	30	+/-20	0.1	-	-	-	6	3.6	-	-	-	
		SSM6N7002BFE $	60	+/-20	0.2	-	-	-	-	-	3.3	2.6	2.1	
	N-ch + P-ch	SSM6L35FE # $	20	+/-10	0.18	20	8	-	4	3	-	-	-	
			-20	+/-10	-0.1	44	22	-	11	8	-	-	-	
USV	P-ch x 2	SSM5P15FU $	-30	+/-20	-0.1	-	-	-	32	12	-	-	-	
	N-ch x 2	SSM5N16FU $	20	+/-10	0.1	-	15	-	4	3	-	-	-	
		SSM5N15FU $	30	+/-20	0.1	-	-	-	7	4	-	-	-	
UF6	P-ch x 2	SSM6P36TU # $	-20	+/-8	-0.33	-	3.6	2.7	1.6(@-2.8V)	-	1.31	-	-	
US6	P-ch x 2	SSM6P35FU # $	-20	+/-10	-0.1	44	22	-	11	8	-	-	-	
		SSM6P35AFU ☆ $	-20	+/-10	-0.25	20	4	2.9	2.1	-	1.4	-	-	
		SSM6P15FU # $	-30	+/-20	-0.1	-	-	-	32	12	-	-	-	
	N-ch x 2	SSM6N16FU ● $	20	+/-10	0.1	-	15	-	4	3	-	-	-	⇒ SSM6N37FU
		SSM6N35FU # $	20	+/-10	0.18	20	8	-	4	3	-	-	-	
		SSM6N35AFU ☆ $	20	+/-10	0.25	9	3.1	2.4	1.6	-	1.1	-	-	
		SSM6N37FU $	20	+/-10	0.25	-	5.6	4.05	3.02	-	2.2	-	-	
		SSM6N48FU $	30	+/-20	0.1	-	-	-	5.4	3.2	-	-	-	
		SSM6N44FU # $	30	+/-20	0.1	-	-	-	7	4	-	-	-	
		SSM6N15AFU $	30	+/-20	0.1	-	-	-	6	3.6	-	-	-	
		SSM6N09FU $	30	+/-20	0.4	-	-	-	1.7(@3.3V)	1.2	-	-	0.7	
		SSM6N17FU # $	50	+/-7	0.1	-	-	-	40	20	-	-	-	
		SSM6N7002CFU ☆ $	60	+/-20	0.17	-	-	-	-	-	4.7	4.4	3.9	
		SSM6N7002KFU ☆ # $	60	+/-20	0.3	-	-	-	-	-	1.75	1.65	1.5	
	N-ch + P-ch	SSM6L35FU # $	20	+/-10	0.18	20	8	-	4	3	-	-	-	
			-20	+/-10	-0.1	44	22	-	11	8	-	-	-	
		SSM6L09FU $	30	+/-20	0.4	-	-	-	1.7(@3.3V)	1.2	-	-	0.7	
			-30	+/-20	-0.2	-	-	-	6(@-3.3V)	4.2	-	-	2.7	

☆ New Products, ● Recommend Another New Product
Available conformable product to AEC-Q101
$ With protection Zener diode between gate and source

3. Part Naming Conventions

Small-Signal MOSFET SSM Series

Ex) SSM 3 K 329 R
① ② ③ ④ ⑤

① Small-Signal MOSFET
② Pin count
③ Polarity and internal configuration
- K: N-channel, single
- J: P-channel, single
- N: N-channel, dual
- P: P-channel, dual
- L: N-channel and P-channel (dual)
- E: N-channel and P-channel (pre-wired as a load switch)
- H: N-channel and SBD
- G: P-channel and SBD
- Q: PNP and P-channel

④ Serial number of the products
⑤ Package

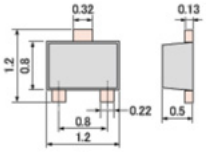
3-pin	F: S-Mini	
	FU: USM	
	FS: SSM	
	FV: VESM	
	TU: UFM	
	CT: CST3	
	CTB: CST3B	
	CTC: CST3C	
	R: SOT-23F	
5-pin	F: SMV	
	FU: USV	
	FE: ESV	
	TU: UFV	
6-pin	G: WCSP6C	
	R: TSOP6F	
	FU: US6	
	FE: ES6	
	TU: UF6	
	NU: UDFN6/UDFN6B	

4. Device Packages

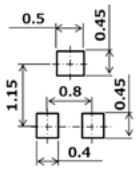
Dimensional Outline

VESM (SOT-723)

Package dimension unit : mm

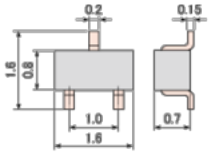


Land pattern example unit : mm

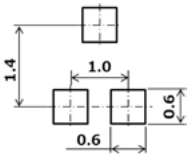


SSM (SOT-416)

Package dimension unit : mm

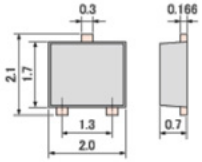


Land pattern example unit : mm

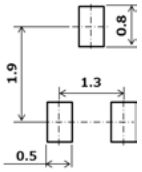


UFM (SOT-323F)

Package dimension unit : mm

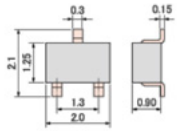


Land pattern example unit : mm

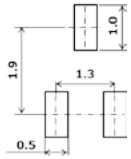


USM (SOT-323)

Package dimension unit : mm

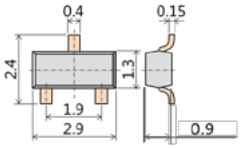


Land pattern example unit : mm

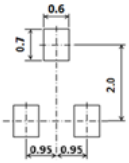


SOT23 (SOT23)

Package dimension unit : mm

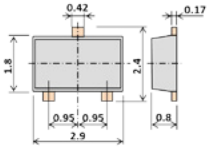


Land pattern example unit : mm

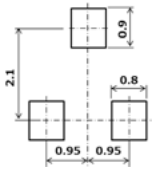


SOT-23F

Package dimension unit : mm

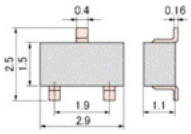


Land pattern example unit : mm

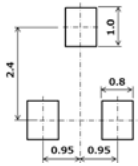


S-Mini (SOT-346)

Package dimension unit : mm

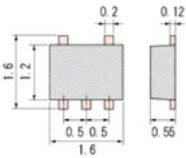


Land pattern example unit : mm

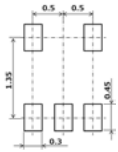


ESV (SOT-553)

Package dimension unit : mm

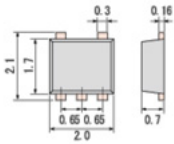


Land pattern example unit : mm

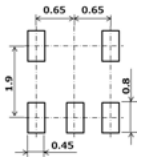


UFV (SOT-353F)

Package dimension unit : mm

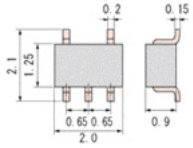


Land pattern example unit : mm

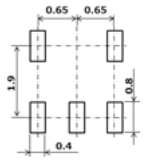


USV (SOT-353)

Package dimension unit : mm

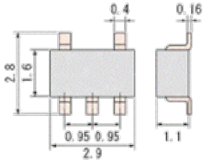


Land pattern example unit : mm

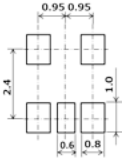


SMV (SOT-25)

Package dimension unit : mm

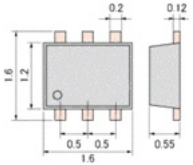


Land pattern example unit : mm

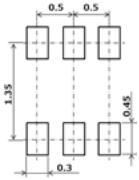


ES6 (SOT-563)

Package dimension unit : mm

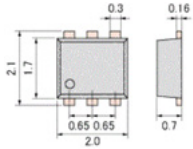


Land pattern example unit : mm

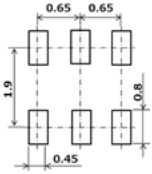


UF6 (SOT-363F)

Package dimension unit : mm

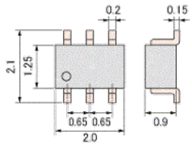


Land pattern example unit : mm

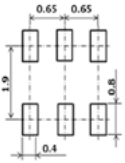


US6 (SOT-363)

Package dimension unit : mm

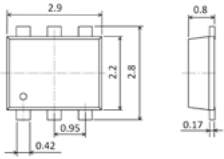


Land pattern example unit : mm

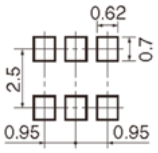


TSOP6F

Package dimension unit : mm



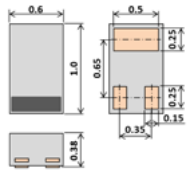
Land pattern example unit : mm



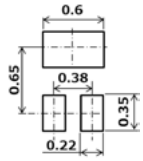
Leadless packages

CST3 (SOT-883)

Package dimension unit : mm

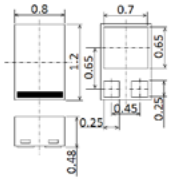


Land pattern example unit : mm

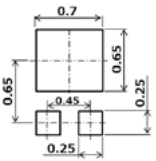


CST3B

Package dimension unit : mm

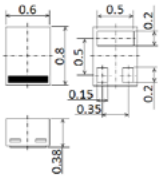


Land pattern example unit : mm

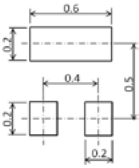


CST3C

Package dimension unit : mm

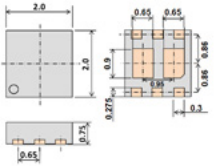


Land pattern example unit : mm

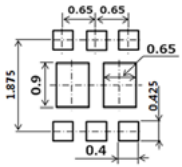


UDFN6 (SOT-1118)

Package dimension unit : mm

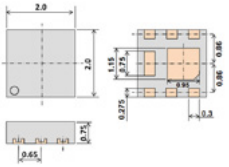


Land pattern example unit : mm

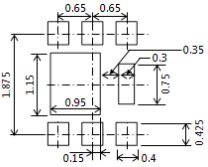


UDFN6B (SOT-1220)

Package dimension unit : mm

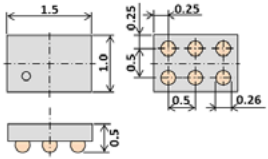


Land pattern example unit : mm

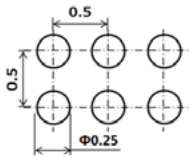


WCSP6C

Package dimension unit : mm



Land pattern example unit : mm



II Power MOSFETs

1. Low-Voltage MOSFET Series

VS-6 (TSOP-6) (2.9x2.8)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)					Q_g typ.(nC)		C_{iss} typ.	Marking	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	|V_{GS}|= 10V	|V_{GS}|= 4.5V	|V_{GS}|= 2.5V	|V_{GS}|= 1.8V	|V_{GS}|= 1.5V	|V_{GS}|= 10V	|V_{GS}|= 5V	(pF)		
N-ch Note(1)	TPC6008-H	30	+/-20	5.9	60	74	-	-	-	4.8	2.6	232	S2H	U-MOSVI-H
	TPC6009-H	40	+/-20	5.3	81	98	-	-	-	4.7	2.6	225	S2J	U-MOSVI-H
	TPC6010-H	60	+/-20	6.1	59	63	-	-	-	12	6.5	640	S2K	U-MOSVI-H
N-ch	TPC6012	20	+/-12	6	-	20	38	-	-	-	9	630	S2M	U-MOSIV
	TPC6067	30	+/-20	6	23	29	-	-	-	8	-	610	S2N	U-MOSVII
P-ch	TPC6130	-20	+/-12	-2.8	-	106	164	-	-	-	5.1	360	S3P	U-MOSVI
	TPC6113	-20	+/-12	-5	-	55	85	-	-	-	10	690	S3N	U-MOSVI
	TPC6111 $	-20	+/-8	-5.5	-	40	57	80	150	-	10	700	S3L	U-MOSV
	TPC6110	-30	+20/-25	-4.5	56	77	-	-	-	14	-	510	S3K	U-MOSVI

$ With protection Zener diode between gate and source
Note(1) : High-speed Type

VS-8 (2.9x1.9)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)					Q_g typ.(nC)		C_{iss} typ.	Marking	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	|V_{GS}|= 10V	|V_{GS}|= 4.5V	|V_{GS}|= 2.5V	|V_{GS}|= 2V	|V_{GS}|= 1.8V	|V_{GS}|= 10V	|V_{GS}|= 5V	(pF)		
N-ch	TPCF8003	20	+/-12	7	-	18	34	-	-	-	9.5	500	F2C	U-MOSIV
	TPCF8004	30	+/-20	7	24	30	-	-	-	9	-	610	F2D	U-MOSVII
P-ch	TPCF8105	-20	+/-12	-6	-	30	41	-	100	-	17	1100	F3E	U-MOSVI
	TPCF8108	-20	+/-12	-7	-	26	37	-	95	-	19	1320	F3H	U-MOSVI
	TPCF8107	-30	+20/-25	-6	28	38	-	-	-	22	-	970	F3G	U-MOSVI
P-ch x 2	TPCF8305	-20	+/-12	-4	-	58	83	160	265	-	9.2	680	F5E	U-MOSVI
	TPCF8306	-30	+20/-25	-3.2	72	120	-	-	-	10	-	390	F5F	U-MOSVI

PS-8 (2.9x2.8)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)							Q_g typ.(nC)		C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	|V_{GS}|= 10V	|V_{GS}|= 6V	|V_{GS}|= 4.5V	|V_{GS}|= 2.5V	|V_{GS}|= 2V	|V_{GS}|= 1.8V	|V_{GS}|= 1.5V	|V_{GS}|= 10V	|V_{GS}|= 5V	(pF)	
N-ch Note(2)	TPCP8007-H	60	+/-20	5	57	-	64	-	-	-	-	11	5.8	640	U-MOSVI-H
N-ch x 2 Note(2)	TPCP8205-H	30	+/-20	6.5	26	-	29	-	-	-	-	13.8	-	830	U-MOSVI-H
N-ch	TPCP8011 $	40	+/-20	5	31.8	51.2	-	-	-	-	-	11.8	-	505	U-MOSIV
	TPCP8010 $	40	+/-20	6	23.8	38.4	-	-	-	-	-	13.1	-	600	U-MOSIV
	TPCP8009 $	40	+/-20	10	11.8	19.5	-	-	-	-	-	25.1	-	1250	U-MOSIV
	TPCP8013 $	60	+/-20	4	51.8	77.9	-	-	-	-	-	12	-	515	U-MOSIV
	TPCP8012 $	60	+/-20	8	20.2	29.1	-	-	-	-	-	26.6	-	1160	U-MOSIV
P-ch	TPCP8105 $	-20	+/-12	-7.2	-	-	17	23	45	60	-	-	28	2280	U-MOSVI
	TPCP8106	-30	+20/-25	-5.2	33	-	44	-	-	-	-	19	-	870	U-MOSVI
	TPCP8109 $	-40	+10/-20	-4.5	52.3	76.8	-	-	-	-	-	18	-	810	U-MOSVI
	TPCP8107 $	-40	+10/-20	-8	18	26.8	-	-	-	-	-	44.6	-	2160	U-MOSVI
	TPCP8111 $	-60	+10/-20	-3	117	158.4	-	-	-	-	-	17	-	760	U-MOSVI
	TPCP8110 $	-60	+10/-20	-5	39.5	53.2	-	-	-	-	-	45	-	2075	U-MOSVI
N-ch x 2	TPCP8206	20	+/-12	6	-	-	24	35	-	-	-	-	5.8	630	U-MOSVII
	TPCP8204	30	+/-20	4.2	50	-	77	-	-	-	-	4.6	-	190	U-MOSIV
	TPCP8207 $	40	+/-20	5	36.3	62.8	-	-	-	-	-	11.8	-	505	U-MOSIV
P-ch x 2	TPCP8303 $	-20	+/-8	-3.8	-	-	46	60	-	90	144	-	10	640	U-MOSV
	TPCP8306	-20	+/-12	-4	-	-	58	83	160	265	-	-	9.2	680	U-MOSVI
	TPCP8305	-20	+/-12	-6	-	-	30	42	-	-	-	-	21.5	1500	U-MOSVI
N-ch + P-ch	TPCP8404	30	+/-20	4	50	-	80	-	-	-	-	4.6	-	190	U-MOSIV
		-30	+/-20	-4	50	-	80	-	-	-	-	13	-	510	U-MOSV
	TPCP8405	30	+/-20	6.5	26	-	29	-	-	-	-	13.8	-	830	U-MOSVI-H
		-30	+/-20	-6	31.3	-	42	-	-	-	-	24.1	-	1075	U-MOSVI
	TPCP8406	40	+/-20	6	32	-	36	-	-	-	-	13.7	-	850	U-MOSVI-H
		-40	+/-20	-5	43.2	-	53.4	-	-	-	-	24.2	-	1105	U-MOSVI
	TPCP8407 $	40	+/-20	5	36.3	62.8	-	-	-	-	-	11.8	-	505	U-MOSIV
	$	-40	+10/-20	-4	56.8	82.2	-	-	-	-	-	18	-	810	U-MOSVI

$ With protection Zener diode between gate and source
Note(2) : High-speed Type

TSON Advance (3.3x3.3)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)								Q_g typ.(nC)		C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	|V_{GS}|= 10V	|V_{GS}|= 6.5V	|V_{GS}|= 6V	|V_{GS}|= 4.5V	|V_{GS}|= 4V	|V_{GS}|= 2.5V	|V_{GS}|= 2V	|V_{GS}|= 1.8V	|V_{GS}|= 10V	|V_{GS}|= 4.5V	(pF)	
N-ch Note(3)	TPCC8067-H	30	+/-20	9	25	-	-	33	-	-	-	-	9.5	4.7(@5V)	690	U-MOSVII-H
	TPCC8066-H	30	+/-20	11	15	-	-	19	-	-	-	-	15	7.6(@5V)	1100	U-MOSVII-H
	TPCC8068-H	30	+/-20	13	11.6	-	-	16	-	-	-	-	14	7.2(@5V)	980	U-MOSVII-H
	TPCC8065-H	30	+/-20	13	11.4	-	-	14.5	-	-	-	-	20	9.9(@5V)	1350	U-MOSVII-H
	TPN11003NL	30	+/-20	31[SL]	11	-	-	16	-	-	-	-	7.5	3.3	510	U-MOSVIII-H
	TPN8R903NL	30	+/-20	37[SL]	8.9	-	-	12.7	-	-	-	-	9.8	4.4	630	U-MOSVIII-H
	TPCC8064-H	30	+/-20	19	8.2	-	-	10.6	-	-	-	-	23	11(@5V)	1600	U-MOSVII-H
	TPN6R003NL	30	+/-20	56[SL]	6	-	-	8.3	-	-	-	-	17	8.2	1050	U-MOSVIII-H
	TPCC8062-H	30	+/-20	27	5.6	-	-	7.1	-	-	-	-	34	17(@5V)	2400	U-MOSVII-H
	TPN5R203PL ☆	30	+/-20	76[SL]	5.2	-	-	6.4	-	-	-	-	22	10	1520	U-MOSIX-H
	TPN4R303NL	30	+/-20	63[SL]	4.3	-	-	6.3	-	-	-	-	14.8	6.8	1110	U-MOSVIII-H
	TPN2R903PL ☆	30	+/-20	122[SL]	2.9	-	-	4.1	-	-	-	-	26	12	1780	U-MOSIX-H
	TPN2R703NL	30	+/-20	90[SL]	2.7	-	-	4.1	-	-	-	-	21	9.5	1600	U-MOSVIII-H
	TPN1R603PL ☆	30	+/-20	188[SL]	1.6	-	-	2.5	-	-	-	-	41	20	2970	U-MOSIX-H
	TPN7R504PL ☆	40	+/-20	68[SL]	7.5	-	-	10	-	-	-	-	24	12	1570	U-MOSIX-H
	TPN3R704PL	40	+/-20	92[SL]	3.7	-	-	6	-	-	-	-	27	13.3	1910	U-MOSIX-H
	TPN2R304PL	40	+/-20	100[SL]	2.3	-	-	4	-	-	-	-	41	19.4	2750	U-MOSIX-H
	TPN2R805PL ☆	45	+/-20	139[SL]	2.8	-	-	5	-	-	-	-	39	19	2450	U-MOSIX-H
	TPN22006NH	60	+/-20	21[SL]	22	64	-	-	-	-	-	-	12	-	710	U-MOSVIII-H
	TPN14006NH	60	+/-20	33[SL]	14	41	-	-	-	-	-	-	15	-	1000	U-MOSVIII-H
	TPN11006NL	60	+/-20	37[SL]	11.4	-	-	17	-	-	-	-	23	11.2	1500	U-MOSVIII-H
	TPN11006PL ☆	60	+/-20	54[SL]	11.4	-	-	18.1	-	-	-	-	17	9	1250	U-MOSIX-H
	TPN7R506NH	60	+/-20	53[SL]	7.5	16	-	-	-	-	-	-	22	-	1410	U-MOSVIII-H
	TPN7R006PL ☆	60	+/-20	76[SL]	7	-	-	13.5	-	-	-	-	20	9.8	1440	U-MOSIX-H
	TPN4R806PL ☆	60	+/-20	105[SL]	4.8	-	-	9.1	-	-	-	-	29	14	2130	U-MOSIX-H
	TPN30008NH	80	+/-20	22[SL]	30	-	-	-	-	-	-	-	11	-	710	U-MOSVIII-H
	TPN13008NH	80	+/-20	40[SL]	13.3	-	-	-	-	-	-	-	18	-	1230	U-MOSVIII-H
	TPN3300ANH	100	+/-20	21[SL]	33	-	-	-	-	-	-	-	11	-	680	U-MOSVIII-H
	TPN1600ANH	100	+/-20	36[SL]	16	-	-	-	-	-	-	-	19	-	1230	U-MOSVIII-H
	TPN1200APL ☆ $	100	+/-20	66[SL]	11.5	-	-	20	-	-	-	-	24	12	1425	U-MOSIX-H
	TPN5900CNH	150	+/-20	18[SL]	59	-	-	-	-	-	-	-	7	-	460	U-MOSVIII-H
	TPN1110ENH	200	+/-20	13[SL]	114	-	-	-	-	-	-	-	7	-	460	U-MOSVIII-H
	TPN2010FNH	250	+/-20	9.9[SL]	198	-	-	-	-	-	-	-	7	-	460	U-MOSVIII-H
N-ch	TPCC8093	20	+/-12	21	-	-	-	5.8	-	9.5	-	-	-	16(@5V)	1860	U-MOSVII
	TPCC8074	30	+/-20	20	6.3	-	-	8.5	-	-	-	-	25	-	1800	U-MOSVII
	TPCC8073	30	+/-20	27	4.5	-	-	5.9	-	-	-	-	37	-	2600	U-MOSVII
	TPN6R303NC	30	+/-20	43[SL]	6.3	-	-	8.4	-	-	-	-	24	-	1370	U-MOSVIII
	TPN4R203NC	30	+/-20	53[SL]	4.2	-	-	6.4	-	-	-	-	24	-	1370	U-MOSVIII
	TPN2R503NC	30	+/-20	85[SL]	2.5	-	-	4.1	-	-	-	-	40	-	2230	U-MOSVIII
	TPN2R203NC	30	+/-20	100[SL]	2.2	-	-	3.6	-	-	-	-	34	-	2230	U-MOSVIII
	TPCC8084 $	33	+/-20	21	6.7	-	-	9	-	-	-	-	27	-	1900	U-MOSVII
	TPCC8076 $	33	+/-20	27	4.6	-	-	6.2	-	-	-	-	34	-	2500	U-MOSVII
	TPCC8069 $	40	+/-20	30	8.1	-	14.1	-	-	-	-	-	34	-	1640	U-MOSIV
	TPCC8070 $	60	+/-20	30	13.5	-	21.3	-	-	-	-	-	34	-	1600	U-MOSIV
P-ch	TPCC8136	-20	+/-12	-9.4	-	-	-	16	-	22	37	60	-	36(@5V)	2350	U-MOSVI
	TPCC8137	-20	+/-12	-13	-	-	-	10	-	16	30	52	-	43(@5V)	2990	U-MOSVI
	TPCC8138	-20	+/-12	-18	-	-	-	7.5	-	11	21	42	-	63(@5V)	4165	U-MOSVI
	TPN4R712MD	-20	+/-12	-36	-	-	-	4.7	-	8.1	-	-	-	65(@5V)	4300	U-MOSVI
	TPCC8131	-30	+20/-25	-10	17.6	-	-	23	-	-	-	-	40	-	1700	U-MOSVI
	TPCC8103	-30	+/-20	-18	12	-	-	-	25	-	-	-	38	-	1600	U-MOSV
	TPCC8104	-30	+20/-25	-20	8.8	-	-	12.4	-	-	-	-	58	-	2260	U-MOSVI
	TPCC8105	-30	+20/-25	-23	7.8	-	-	10.4	-	-	-	-	76	-	3240	U-MOSVI
	TPCC8106 $	-40	+10/-20	-30	12.3	-	18.9	-	-	-	-	-	66	-	3100	U-MOSVI
	TPCC8107 $	-60	+10/-20	-25	30.5	-	42.9	-	-	-	-	-	63	-	2930	U-MOSVI

☆ New Products, $ With protection Zener diode between gate and source
[SL] $I_{D\,(DC)}$ (Silicon Limit)
Note(3) : High-speed Type, Low-rg

SOP-8 (SO-8) (5x6)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)		Q_g typ.(nC)		C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	$\|V_{GS}\|$=10V	$\|V_{GS}\|$=4.5V	$\|V_{GS}\|$=10V	$\|V_{GS}\|$=4.5V	(pF)	
N-ch Note(4)	TPC8067-H	30	+/-20	9	25	33	9.5	4.7(@5V)	690	U-MOSVII-H
	TPC8066-H	30	+/-20	11	16	19	15	7.6(@5V)	1100	U-MOSVII-H
	TPC8065-H	30	+/-20	13	11.6	14.7	20	9.9(@5V)	1350	U-MOSVII-H
	TP89R103NL	30	+/-20	15[SL]	9.1	12.9	9.8	4.4	630	U-MOSVIII-H
	TPC8064-H	30	+/-20	16	8.4	10.8	23	11(@5V)	1600	U-MOSVII-H
	TPC8063-H	30	+/-20	17	7	8.9	27	13(@5V)	1900	U-MOSVII-H
	TP86R203NL	30	+/-20	19[SL]	6.2	8.5	17	8.2	1050	U-MOSVIII-H
	TPC8062-H	30	+/-20	18	5.8	7.3	34	17(@5V)	2400	U-MOSVII-H
	TPC8059-H	30	+/-20	18	4	5	41	21(@5V)	2900	U-MOSVII-H
	TPC8058-H	30	+/-20	18	3.2	4	51	26(@5V)	3600	U-MOSVII-H
	TPC8057-H	30	+/-20	18	2.8	3.4	61	31(@5V)	4300	U-MOSVII-H
	TPC8056-H	30	+/-20	18	2.4	2.9	74	38(@5V)	5200	U-MOSVII-H
	TPC8055-H	30	+/-20	18	2.1	2.5	91	47(@5V)	6400	U-MOSVII-H
	TPC8089-H	40	+/-20	7.2	32	36	14	7.2(@5V)	850	U-MOSVI-H
	TPC8052-H	40	+/-20	12	11.5	13.3	25	13(@5V)	1620	U-MOSVI-H
	TPC8047-H	40	+/-20	16	7.6	8.8	43	23(@5V)	2590	U-MOSVI-H
	TPC8046-H	40	+/-20	18	5.7	6.6	57	31(@5V)	3545	U-MOSVI-H
	TPC8045-H	40	+/-20	18	3.9	4.4	90	48(@5V)	5800	U-MOSVI-H
	TPC8053-H	60	+/-20	9	22.5	24.2	25	13(@5V)	1620	U-MOSVI-H
	TPC8050-H	60	+/-20	11	14.5	15.6	41	21(@5V)	2590	U-MOSVI-H
	TPC8049-H	60	+/-20	13	10.7	11.5	56	29(@5V)	3545	U-MOSVI-H
	TPC8048-H	60	+/-20	16	6.9	7.4	87	46(@5V)	5800	U-MOSVI-H
	TPC8051-H	80	+/-20	13	9.7	10.1	85	43(@5V)	5800	U-MOSVI-H
N-ch x 2 Note(4)	TPC8224-H	30	+/-20	8	26	34	9.5	4.7(@5V)	690	U-MOSVII-H
	TPC8223-H	30	+/-20	9	17	21	17	8.3(@5V)	1190	U-MOSVII-H
	TPC8227-H	40	+/-20	5.1	33	40	10	5.3(@5V)	640	U-MOSVI-H
	TPC8228-H	60	+/-20	3.8	57	64	11	5.7(@5V)	640	U-MOSVI-H
	TPC8229-H	80	+/-20	3.2	80	87	11	5.4(@5V)	640	U-MOSVI-H
N-ch	TPC8092	30	+/-20	15	9	11.1	25	-	1800	U-MOSVII
	TPC8074	30	+/-20	17	6.5	8.7	25	-	1800	U-MOSVII
	TPC8086 $	30	+/-20	17	6.4	8.5	26	-	1900	U-MOSVII
	TPC8073	30	+/-20	18	4.7	6.1	37	-	2600	U-MOSVII
	TPC8085 $	30	+/-20	18	4.7	6.1	37	-	2600	U-MOSVII
	TPC8082	30	+/-20	18	4	5	41	-	2900	U-MOSVII
	TPC8081	30	+/-20	18	3.2	4	51	-	3600	U-MOSVII
	TPC8080	30	+/-20	18	2.8	3.4	61	-	4300	U-MOSVII
	TPC8088	30	+/-20	18	2.4	2.9	74	-	5200	U-MOSVII
	TPC8087	30	+/-20	18	2.1	2.5	91	-	6400	U-MOSVII
	TPC8084 $	33	+/-20	17	6.9	9.2	27	-	1900	U-MOSVII
	TPC8076 $	33	+/-20	18	4.9	6.5	34	-	2500	U-MOSVII
	TPC8075	33	+/-20	18	2.6	3.3	70	-	5200	U-MOSVII
	TPC8078	33	+/-20	18	2.3	2.8	90	-	6400	U-MOSVII
P-ch	TPC8129	-30	+20/-25	-9	22	28	39	-	1650	U-MOSVI
	TPC8125	-30	+20/-25	-10	13	17	64	-	2580	U-MOSVI
	TPC8126	-30	+20/-25	-11	10	14	56	-	2400	U-MOSVI
	TPC8123	-30	+20/-25	-11	9	12.5	68	-	2940	U-MOSVI
	TPC8127	-30	+20/-25	-13	6.5	8.9	92	-	3800	U-MOSVI
	TPC8128	-30	+20/-25	-16	5	6.9	115	-	4800	U-MOSVI
	TPC8120	-30	+20/-25	-18	3.2	4.2	180	-	7420	U-MOSVI
	TPC8134	-40	+20/-25	-5	52	66	20	-	890	U-MOSVI
	TPC8132	-40	+20/-25	-7	25	33	34	-	1580	U-MOSVI
	TPC8133	-40	+20/-25	-9	15	18	64	-	2900	U-MOSVI
	TPC8124	-40	+20/-25	-12	8	10	104	-	4750	U-MOSVI
N-ch + P-ch	TPC8407	30	+/-20	9	17	21	17	-	1190	U-MOSVII-H
		-30	+/-20	-7.4	23	29	39	-	1650	U-MOSVI
	TPC8408	40	+/-20	6.1	32	36	14	-	850	U-MOSVI-H
		-40	+/-20	-5.3	43	53	24	-	1105	U-MOSVI

$ With protection Zener diode between gate and source
[SL] $I_{D\,(DC)}$ (Silicon Limit)
Note(4) : High-speed Type, Low-rg

SOP Advance (5x6)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)					Q_g typ.(nC)		C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	|V_{GS}|= 10V	|V_{GS}|= 6.5V	|V_{GS}|= 6V	|V_{GS}|= 4.5V	|V_{GS}|= 2.5V	|V_{GS}|= 10V	|V_{GS}|= 4.5V	(pF)	
N-ch Note(5)	TPCA8068-H	30	+/-20	15	11.6	-	-	16	-	14	7.2(@5V)	980	U-MOSVII-H
	TPCA8065-H	30	+/-20	16	11.4	-	-	14.5	-	20	9.9(@5V)	1350	U-MOSVII-H
	TPH11003NL	30	+/-20	32[SL]	11	-	-	16	-	7.5	3.3	510	U-MOSVIII-H
	TPH8R903NL	30	+/-20	38[SL]	8.9	-	-	12.7	-	9.8	4.4	630	U-MOSVIII-H
	TPCA8064-H	30	+/-20	20	8.2	-	-	10.6	-	23	11(@5V)	1600	U-MOSVII-H
	TPCA8063-H	30	+/-20	22	6.8	-	-	8.7	-	27	13(@5V)	1900	U-MOSVII-H
	TPCA8091-H	30	+/-20	35	6	-	-	8.4	-	20	9	1410	U-MOSVII-H
	TPH6R003NL	30	+/-20	57[SL]	6	-	-	8.3	-	17	8.2	1050	U-MOSVIII-H
	TPCA8062-H	30	+/-20	28	5.6	-	-	7.1	-	34	17(@5V)	2400	U-MOSVII-H
	TPH4R803PL ☆	30	+/-20	90[SL]	4.8	-	-	6.2	-	22	10	1520	U-MOSIX-H
	TPH4R003NL	30	+/-20	68[SL]	4	-	-	6.2	-	14.8	6.8	1110	U-MOSVIII-H
	TPCA8059-H	30	+/-20	32	3.8	-	-	4.8	-	41	21(@5V)	2900	U-MOSVII-H
	TPH3R203NL	30	+/-20	84[SL]	3.2	-	-	4.7	-	21	9.5	1600	U-MOSVIII-H
	TPCA8058-H	30	+/-20	38	3	-	-	3.8	-	51	26(@5V)	3600	U-MOSVII-H
	TPH3R003PL ☆	30	+/-20	134[SL]	3	-	-	4.2	-	50	24	2940	U-MOSIX-H
	TPH2R903PL ☆	30	+/-20	124[SL]	2.9	-	-	4.1	-	26	12	1780	U-MOSIX-H
	TPCA8057-H	30	+/-20	42	2.6	-	-	3.2	-	61	31(@5V)	4300	U-MOSVII-H
	TPCA8056-H	30	+/-20	48	2.2	-	-	2.7	-	74	38(@5V)	5200	U-MOSVII-H
	TPH2R003PL ☆	30	+/-20	180[SL]	2	-	-	2.6	-	86	41	4930	U-MOSIX-H
	TPCA8055-H	30	+/-20	56	1.9	-	-	2.3	-	91	47(@5V)	6400	U-MOSVII-H
	TPH1R403NL	30	+/-20	150[SL]	1.4	-	-	2.1	-	46	20	3400	U-MOSVIII-H
	TPHR9203PL ☆	30	+/-20	280[SL]	0.92	-	-	1.29	-	81	38	5800	U-MOSIX-H
	TPHR9003NL	30	+/-20	220[SL]	0.9	-	-	1.4	-	74	32	5300	U-MOSVIII-H
	TPHR6503PL	30	+/-20	393[SL]	0.65	-	-	0.89	-	110	52	7700	U-MOSIX-H
	TPCA8052-H	40	+/-20	20	11.3	-	-	13.1	-	25	13(@5V)	1620	U-MOSVI-H
	TPCA8047-H	40	+/-20	32	7.3	-	-	8.5	-	43	23(@5V)	2590	U-MOSVI-H
	TPH7R204PL ☆	40	+/-20	72[SL]	7.2	-	-	9.7	-	24	12	1570	U-MOSIX-H
	TPH6R004PL ☆	40	+/-20	87[SL]	6	-	-	8.4	-	30	15	2100	U-MOSIX-H
	TPCA8046-H	40	+/-20	38	5.4	-	-	6.3	-	55	29(@5V)	3545	U-MOSVI-H
	TPH3R704PL	40	+/-20	92	3.7	-	-	6	-	27	13.3	1910	U-MOSIX-H
	TPH3R704PC ☆	40	+/-20	118[SL]	3.7	-	-	5.8	-	47	23	2780	U-MOSIX-H
	TPCA8045-H	40	+/-20	46	3.6	-	-	4.1	-	90	47(@5V)	5800	U-MOSVI-H
	TPH2R104PL ☆	40	+/-20	180[SL]	2.1	-	-	3.1	-	78	37	4790	U-MOSIX-H
	TPH1R204PL	40	+/-20	246[SL]	1.24	-	-	2.1	-	74	34	5500	U-MOSIX-H
	TPH1R204PB ☆	40	+/-20	240[SL]	1.2	-	1.96	-	-	62	-	4400	U-MOSIX-H
	TPHR8504PL	40	+/-20	340[SL]	0.85	-	-	1.4	-	103	49	7370	U-MOSIX-H
	TPH2R805PL ☆	45	+/-20	150[SL]	2.80	-	-	3.9	-	73	37	3980	U-MOSIX-H
	TPH1R405PL ☆	45	+/-20	232[SL]	1.4	-	-	2.3	-	74	36	4830	U-MOSIX-H
	TPH1R005PL	45	+/-20	280[SL]	1.04	-	-	1.7	-	122	59	7700	U-MOSIX-H
	TPCA8053-H	60	+/-20	15	22.3	-	-	24	-	25	13(@5V)	1620	U-MOSVI-H
	TPH14006NH	60	+/-20	34[SL]	14	33	-	-	-	16	-	1000	U-MOSVIII-H
	TPH11006NL	60	+/-20	40[SL]	11.4	-	-	17	-	23	11.2	1500	U-MOSVIII-H
	TPCA8049-H	60	+/-20	28	10.4	-	-	11.2	-	55	29(@5V)	3545	U-MOSVI-H
	TPH9R506PL ☆	60	+/-20	68[SL]	9.5	-	-	15	-	21	11	1470	U-MOSIX-H
	TPH7R506NH	60	+/-20	55[SL]	7.5	19	-	-	-	31	-	1785	U-MOSVIII-H
	TPH7R006PL ☆	60	+/-20	79[SL]	7	-	-	13.5	-	22	11	1440	U-MOSIX-H
	TPCA8048-H	60	+/-20	35	6.6	-	-	7.1	-	90	46(@5V)	5800	U-MOSVI-H
	TPH5R906NH	60	+/-20	71[SL]	5.9	14	-	-	-	38	-	2340	U-MOSVIII-H
	TPH4R606NH	60	+/-20	85[SL]	4.6	11	-	-	-	49	-	3050	U-MOSVIII-H
	TPH3R506PL ☆	60	+/-20	135[SL]	3.5	-	-	6.7	-	55	27	3400	U-MOSIX-H
	TPH2R506PL ☆	60	+/-20	160[SL]	2.5	-	-	4.4	-	60	32	4180	U-MOSIX-H
	TPH2R306NH	60	+/-20	130[SL]	2.3	4.7	-	-	-	72	-	4700	U-MOSVIII-H
	TPH1R306PL	60	+/-20	260[SL]	1.34	-	-	2.3	-	91	44	6250	U-MOSIX-H

☆ New Products
[SL] $I_{D\ (DC)}$ (Silicon Limit)
Note(5) : High-speed / Low-capacitance Type

SOP Advance (5x6)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)					Q_g typ.(nC)		C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	$\|V_{GS}\|$= 10V	$\|V_{GS}\|$= 6.5V	$\|V_{GS}\|$= 6V	$\|V_{GS}\|$= 4.5V	$\|V_{GS}\|$= 2.5V	$\|V_{GS}\|$= 10V	$\|V_{GS}\|$= 4.5V	(pF)	
N-ch Note(5)	TPH2R608NH	75	+/-20	168[SL]	2.6	-	-	-	-	72	-	4600	U-MOSVIII-H
	TPH12008NH	80	+/-20	44[SL]	12.3	-	-	-	-	22	-	1490	U-MOSVIII-H
	TPCA8051-H	80	+/-20	28	9.4	-	-	9.8	-	91	47(@5V)	5800	U-MOSVI-H
	TPH8R008NH	80	+/-20	63[SL]	8	-	-	-	-	35	-	2300	U-MOSVIII-H
	TPH4R008NH	80	+/-20	100[SL]	4	-	-	-	-	59	-	4100	U-MOSVIII-H
	TPH1400ANH	100	+/-20	42[SL]	13.6	-	-	-	-	22	-	1440	U-MOSVIII-H
	TPH8R80ANH	100	+/-20	59[SL]	8.8	-	-	-	-	33	-	2180	U-MOSVIII-H
	TPH6R30ANL $	100	+/-20	66[SL]	6.3	-	-	10.3	-	55	27	3300	U-MOSVIII-H
	TPH4R50ANH	100	+/-20	93[SL]	4.5	-	-	-	-	58	-	4000	U-MOSVIII-H
	TPH4R10ANL	100	+/-20	92[SL]	4.1	-	-	6.6	-	75	37	4850	U-MOSVIII-H
	TPH3R70APL ☆	100	+/-20	150[SL]	3.7	-	-	6.2	-	67	33	4850	U-MOSIX-H
	TPH5900CNH	150	+/-20	18[SL]	59	-	-	-	-	7	-	460	U-MOSVIII-H
	TPH3300CNH	150	+/-20	29[SL]	33	-	-	-	-	10.6	-	810	U-MOSVIII-H
	TPH1500CNH	150	+/-20	50[SL]	15.4	-	-	-	-	22	-	1700	U-MOSVIII-H
	TPH1110ENH	200	+/-20	13[SL]	114	-	-	-	-	7	-	460	U-MOSVIII-H
	TPH6400ENH	200	+/-20	21[SL]	64	-	-	-	-	11.2	-	810	U-MOSVIII-H
	TPH2900ENH	200	+/-20	36[SL]	29	-	-	-	-	22	-	1700	U-MOSVIII-H
	TPH2010FNH	250	+/-20	10[SL]	198	-	-	-	-	7	-	460	U-MOSVIII-H
	TPH1110FNH	250	+/-20	15[SL]	112	-	-	-	-	11	-	810	U-MOSVIII-H
	TPH5200FNH	250	+/-20	27[SL]	52	-	-	-	-	22	-	1700	U-MOSVIII-H
N-ch	TPCA8082	30	+/-20	32	3.8	-	-	4.8	-	41	-	2900	U-MOSVII
	TPCA8081	30	+/-20	38	3	-	-	3.8	-	51	-	3600	U-MOSVII
	TPCA8080	30	+/-20	42	2.6	-	-	3.2	-	61	-	4300	U-MOSVII
	TPCA8088	30	+/-20	48	2.2	-	-	2.7	-	74	-	5200	U-MOSVII
	TPCA8087	30	+/-20	56	1.9	-	-	2.3	-	91	-	6400	U-MOSVII
	TPHR9003NC	30	+/-20	220[SL]	0.9	-	-	1.4	-	75	32	5300	U-MOSVIII
	TPCA8075	33	+/-20	48	2.4	-	-	3.1	-	70	-	5200	U-MOSVII
	TPCA8078	33	+/-20	54	2.1	-	-	2.6	-	90	-	6400	U-MOSVII
	TPCA8085 $	40	+/-20	40	5.7	-	10.4	-	-	41	-	2050	U-MOSIV
	TPCA8083 $	40	+/-20	60	3.3	-	5.6	-	-	83	-	4540	U-MOSIV
	TPCA8086 $	60	+/-20	35	11.2	-	16.6	-	-	41	-	1990	U-MOSIV
	TPCA8084 $	60	+/-20	60	5.3	-	8	-	-	83	-	4480	U-MOSIV
P-ch	TPH1R712MD	-20	+/-12	-60	-	-	-	1.7	2.7	-	182(@-5V)	10900	U-MOSVI
	TPCA8131	-30	+20/-25	-13	17	-	-	22	-	40	-	1700	U-MOSVI
	TPCA8109	-30	+20/-25	-24	9	-	-	13	-	56	-	2400	U-MOSVI
	TPCA8128	-30	+20/-25	-34	4.8	-	-	6.7	-	115	-	4800	U-MOSVI
	TPCA8121	-30	+10/-20	-45	3	-	-	4	-	190	-	7420	U-MOSVI
	TPCA8120	-30	+20/-25	-45	3	-	-	4	-	190	-	7420	U-MOSVI
	TPCA8124 $	-40	+10/-20	-35	10.5	-	14.6	-	-	77	-	3570	U-MOSVI
	TPCA8122 $	-40	+10/-20	-60	5	-	7.2	-	-	152	-	7340	U-MOSVI
	TPCA8125 $	-60	+10/-20	-25	25.5	-	34.4	-	-	78	-	3650	U-MOSVI
	TPCA8123 $	-60	+10/-20	-50	11.1	-	14.9	-	-	163	-	7000	U-MOSVI
N-ch + SBD Note(5)	TPCA8A11-H	30	+/-20	35	3.6	-	-	4.6	-	46	23(@5V)	3200	U-MOSVII-H(SBD)
	TPCA8A10-H	30	+/-20	40	3	-	-	3.8	-	57	29(@5V)	4000	U-MOSVII-H(SBD)
	TPCA8A09-H	30	+/-20	51	2.3	-	-	2.8	-	82	41(@5V)	5900	U-MOSVII-H(SBD)

☆ New Products, $ With protection Zener diode between gate and source
[SL] $I_{D\,(DC)}$ (Silicon Limit)
Note(5) : High-speed / Low-capacitance Type

SOP Advance(WF) (5x6)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)		Q_g typ.(nC)	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	$\|V_{GS}\|$=10V	$\|V_{GS}\|$=4.5V	$\|V_{GS}\|$=10V	(pF)	
N-ch	TPH4R304NC % $	40	+/-20	40	4.3	8.8	35	2450	U-MOSVIII-H

% Wettable Flank Lead Terminal, $ With protection Zener diode between gate and source

DSOP Advance (5x6)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)		Q_g typ.(nC)		C_{iss} typ.	Marking	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	$\|V_{GS}\|$=10V	$\|V_{GS}\|$=4.5V	$\|V_{GS}\|$=10V	$\|V_{GS}\|$=4.5V	(pF)		
N-ch Note(6)	TPWR8503NL	30	+/-20	300[SL]	0.85	1.3	74	32	5300	K31	U-MOSVIII-H
	TPWR6003PL	30	+/-20	412[SL]	0.6	0.84	110	52	7700	K32	U-MOSIX-H
	TPWR8004PL	40	+/-20	340[SL]	0.8	1.35	103	49	7370	K41	U-MOSIX-H
	TPW1R005PL ☆	45	+/-20	300[SL]	0.99	1.65	122	59	7700	K51	U-MOSIX-H
	TPW1R306PL ☆	60	+/-20	260[SL]	1.29	2.3	91	44	6250	K61	U-MOSIX-H
	TPW2R508NH	75	+/-20	170[SL]	2.5	-	72	-	4600	K82	U-MOSVIII-H
	TPW4R008NH	80	+/-20	116	4	-	59	-	4100	K81	U-MOSVIII-H
	TPW4R50ANH	100	+/-20	92	4.5	-	58	-	4000	KA1	U-MOSVIII-H
	TPW1500CNH	150	+/-20	50[SL]	15.4	-	22	-	1700	KC1	U-MOSVIII-H
	TPW2900ENH	200	+/-20	36[SL]	29	-	22	-	1700	KE1	U-MOSVIII-H
	TPW5200FNH	250	+/-20	27[SL]	52	-	22	-	1700	KF1	U-MOSVIII-H

☆ New Products
[SL] $I_{D\,(DC)}$ (Silicon Limit)
Note(6) : Low-rg

DPAK+

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)			Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	$\|V_{GS}\|$=10V	$\|V_{GS}\|$=6.0V	$\|V_{GS}\|$=4.5V	(nC)	(pF)	
N-ch	TK15S04N1L # $	40	+/-20	15	17.8	-	37	10	610	U-MOSVIII-H
	TK20S04K3L # $	40	+/-20	20	14	26	-	18	820	U-MOSIV
	TK35S04K3L # $	40	+/-20	35	10.3	15	-	28	1370	U-MOSIV
	TK50S04K3L # $	40	+/-20	50	5.4	10	-	42	2010	U-MOSIV
	TK65S04N1L # $	40	+/-20	65	4.3	-	7.8	39	2550	U-MOSVIII-H
	TK100S04N1L #	40	+/-20	100	2.3	-	4.5	76	5490	U-MOSVIII-H
	TK1R4S04PB ☆ #	40	+/-20	120	1.35	1.9	-	103	5500	U-MOSIX-H
	TK8S06K3L # $	60	+/-20	8	54	80	-	10	400	U-MOSIV
	TK20S06K3L # $	60	+/-20	20	29	40	-	18	780	U-MOSIV
	TK25S06N1L # $	60	+/-20	25	18.5	-	36.8	15	855	U-MOSVIII-H
	TK30S06K3L # $	60	+/-20	30	18	30	-	28	1350	U-MOSIV
	TK40S06N1L # $	60	+/-20	40	10.5	-	18	26	1650	U-MOSVIII-H
	TK45S06K3L # $	60	+/-20	45	10.5	16.4	-	41	1950	U-MOSIV
	TK60S06K3L # $	60	+/-20	60	8	12.3	-	60	2900	U-MOSIV
	TK80S06K3L # $	60	+/-20	80	5.5	7.8	-	85	4200	U-MOSIV
	TK90S06N1L #	60	+/-20	90	3.3	-	5.2	81	5400	U-MOSVIII-H
	TK7S10N1Z # $	100	+/-20	7	48	-	-	7.1	470	U-MOSVIII-H
	TK11S10N1L ☆ $	100	+/-20	11	28	-	50	15	850	U-MOSVIII-H
	TK33S10N1H $	100	+/-20	33	9.7	-	-	28	2050	U-MOSVIII-H
	TK33S10N1L # $	100	+/-20	33	9.7	-	16.2	33	2250	U-MOSVIII-H
	TK33S10N1Z # $	100	+/-20	33	9.7	-	-	28	2050	U-MOSVIII-H
	TK40S10K3Z # $	100	+/-20	40	18	-	-	61	3110	U-MOSIV
	TK55S10N1 #	100	+/-20	55	6.5	-	-	49	3280	U-MOSVIII-H
	TK60S10N1L ☆	100	+/-20	60	6.11	9.25	-	60	4320	U-MOSVIII-H
P-ch	TJ10S04M3L # $	-40	+10/-20	-10	44	62	-	19	930	U-MOSVI
	TJ20S04M3L # $	-40	+10/-20	-20	22.2	32	-	37	1850	U-MOSVI
	TJ40S04M3L # $	-40	+10/-20	-40	9.1	13	-	83	4140	U-MOSVI
	TJ60S04M3L # $	-40	+10/-20	-60	6.3	9.4	-	125	6510	U-MOSVI
	TJ80S04M3L # $	-40	+10/-20	-80	5.2	7.9	-	158	7770	U-MOSVI
	TJ90S04M3L #	-40	+10/-20	-90	4.3	-	6	172	7700	U-MOSVI
	TJ8S06M3L # $	-60	+10/-20	-8	104	130	-	19	890	U-MOSVI
	TJ15S06M3L # $	-60	+10/-20	-15	50	63	-	36	1770	U-MOSVI
	TJ30S06M3L # $	-60	+10/-20	-30	21.8	28	-	80	3950	U-MOSVI
	TJ50S06M3L # $	-60	+10/-20	-50	13.8	17.4	-	124	6290	U-MOSVI
	TJ60S06M3L # $	-60	+10/-20	-60	11.2	14.5	-	156	7760	U-MOSVI
	TJ15S10M3	-100	+10/-20	-15	130	-	-	69	3200	U-MOSVI

☆ New Products, # Available conformable product to AEC-Q101, $ With protection Zener diode between gate and source

DPAK (TO-252) / New PW-Mold

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)		Q_g typ.(nC)		C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	$\|V_{GS}\|$=10V	$\|V_{GS}\|$=4.5V	$\|V_{GS}\|$=10V	$\|V_{GS}\|$=4.5V	(pF)	
N-ch Note(7)	TK40P03M1	30	+/-20	40	10.8	14.4	17.5	9.4(@5V)	1150	U-MOSVI-H
	TK45P03M1	30	+/-20	45	9.7	12	25	13(@5V)	1500	U-MOSVI-H
	TK50P03M1	30	+/-20	50	7.5	9.8	25.3	13.3(@5V)	1700	U-MOSVI-H
	TK20P04M1	40	+/-20	20	29	34	15	7.6(@5V)	985	U-MOSVI-H
	TK40P04M1	40	+/-20	40	11	13.4	29	15(@5V)	1920	U-MOSVI-H
	TK50P04M1	40	+/-20	50	8.7	10.2	38	20(@5V)	2600	U-MOSVI-H
	TK3R1P04PL ☆	40	+/-20	130[SL]	3.1	4.3	60	30	4670	U-MOSIX-H
	TK6R7P06PL ☆	60	+/-20	74[SL]	6.7	11.1	26	13	1990	U-MOSIX-H
	TK4R4P06PL ☆	60	+/-20	106[SL]	4.4	7.1	48.2	23.9	3280	U-MOSIX-H
P-ch	TJ15P04M3	-40	+/-20	-15	36	48	26	-	1100	U-MOSVI

☆ New Products
[SL] $I_{D\,(DC)}$ (Silicon Limit)
Note(7) : High-speed / Low-capacitance Type

D2PAK

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch Note(8)	TK65G10N1	100	+/-20	136[SL]	4.5	81	5400	U-MOSVIII-H

[SL] $I_{D\,(DC)}$ (Silicon Limit)
Note(8) : High-speed / Low-capacitance Type

D2PAK+

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)		Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	V_{GS}=6V	(nC)	(pF)	
N-ch	TK1R5R04PB ☆	40	+/-20	160	1.5	2.05	103	5500	U-MOSIX-H
	TK60R10N1L ☆	100	+/-20	60	6.31	9.55	60	4320	U-MOSVIII-H

☆ New Products

TO-220SM(W)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)		Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	$\|V_{GS}\|$=10V	$\|V_{GS}\|$=6V	(nC)	(pF)	
N-ch	TK100F04K3L # $	40	+/-20	100	3	4.5	105	4980	U-MOSIV
	TK100F04K3 #	40	+/-20	100	3	-	102	4500	U-MOSIV
	TK150F04K3L # $	40	+/-20	150	2.1	3.2	190	9400	U-MOSIV
	TK1R4F04PB ☆	40	+/-20	160	1.35	1.9	103	5500	U-MOSIX-H
	TK200F04N1L ☆	40	+/-20	200	0.9	1.37	214	14920	U-MOSVIII-H
	TKR74F04PB ☆	40	+/-20	250	0.74	0.98	227	14200	U-MOSIX-H
	TK100F06K3 #	60	+/-20	100	5	-	98	4500	U-MOSIV
	TK130F06K3 #	60	+/-20	130	3.4	-	170	8400	U-MOSIV
	TK60F10N1L ☆	100	+/-20	60	6.11	9.25	60	4320	U-MOSVIII-H
	TK160F10N1L ☆	100	+/-20	160	2.4	3.7	122	10100	U-MOSVIII-H
	TK160F10N1 ☆	100	+/-20	160	2.4	-	121	8510	U-MOSVIII-H
P-ch	TJ100F04M3L # $	-40	+10/-20	-100	3.6	5.4	250	9500	U-MOSVI
	TJ200F04M3L	-40	+10/-20	-200	1.8	2.6	460	12800	U-MOSVI
	TJ100F06M3L # $	-60	+10/-20	-100	7.1	10.7	250	9000	U-MOSVI
	TJ150F06M3L # $	-60	+10/-20	-150	5.6	6.1	420	12500	U-MOSVI

☆ New Products, # Available conformable product to AEC-Q101,$ With protection Zener diode between gate and source

TO-3P(N)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK70J04K3Z $	40	+/-20	70	4.1	100	4500	U-MOSIV
	TK75J04K3Z $	40	+/-20	75	3	190	8450	U-MOSIV
	TK70J06K3	60	+/-20	70	6	98	4500	U-MOSIV

$ With protection Zener diode between gate and source

TO-220

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)		Q_g typ.(nC)		C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	V_{GS}=4.5V	V_{GS}=10V	V_{GS}=4.5V	(pF)	
N-ch Note(9)	TK3R3E03GL	30	+/-20	147[SL]	3.3	4.1	67	32	4350	U-MOSVII-H
	TK3R1E04PL ☆	40	+/-20	128[SL]	3.1	3.8	63.4	29.7	4670	U-MOSIX-H
	TK30E06N1	60	+/-20	43[SL]	15	-	16	-	1050	U-MOSVIII-H
	TK40E06N1	60	+/-20	60[SL]	10.4	-	23	-	1700	U-MOSVIII-H
	TK8R2E06PL ☆	60	+/-20	75[SL]	8.2	11.4	28.3	14.3	1990	U-MOSIX-H
	TK58E06N1	60	+/-20	105[SL]	5.4	-	46	-	3400	U-MOSVIII-H
	TK5R1E06PL ☆	60	+/-20	98[SL]	5.1	8.8	36	18	2380	U-MOSIX-H
	TK4R3E06PL ☆	60	+/-20	106[SL]	4.3	7.2	48.2	23.9	3280	U-MOSIX-H
	TK3R2E06PL ☆	60	+/-20	160[SL]	3.2	4.7	71	35	5000	U-MOS-IX
	TK100E06N1	60	+/-20	263[SL]	2.3	-	140	-	10500	U-MOSVIII-H
	TK35E08N1	80	+/-20	35	12.2	-	25	-	1700	U-MOSVIII-H
	TK46E08N1	80	+/-20	46	8.4	-	37	-	2500	U-MOSVIII-H
	TK72E08N1	80	+/-20	157[SL]	4.3	-	81	-	5500	U-MOSVIII-H
	TK100E08N1	80	+/-20	214[SL]	3.2	-	130	-	9000	U-MOSVIII-H
	TK18E10K3	100	+/-20	18	42	-	33	-	1580	U-MOSIV
	TK22E10N1	100	+/-20	22	13.8	-	28	-	1800	U-MOSVIII-H
	TK34E10N1	100	+/-20	34	9.5	-	38	-	2600	U-MOSVIII-H
	TK40E10N1	100	+/-20	40	8.2	-	49	-	3000	U-MOSVIII-H
	TK65E10N1	100	+/-20	148[SL]	4.8	-	81	-	5400	U-MOSVIII-H
	TK100E10N1	100	+/-20	207[SL]	3.4	-	140	-	8800	U-MOSVIII-H
	TK32E12N1	120	+/-20	32	13.8	-	34	-	2000	U-MOSVIII-H
	TK42E12N1	120	+/-20	42	9.4	-	52	-	3100	U-MOSVIII-H
	TK56E12N1	120	+/-20	112[SL]	7	-	69	-	4200	U-MOSVIII-H
	TK72E12N1	120	+/-20	179[SL]	4.4	-	130	-	8100	U-MOSVIII-H

☆ New Products, [SL] $I_{D\,(DC)}$ (Silicon Limit)
Note(9) : High-speed / Low-capacitance Type

TO-220SIS

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(mΩ)		Q_g typ.(nC)		C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	$\|V_{GS}\|$=10V	$\|V_{GS}\|$=4.5V	$\|V_{GS}\|$=10V	$\|V_{GS}\|$=4.5V	(pF)	
N-ch Note(10)	TK50A04K3	40	+/-20	50	3.5	-	102	-	4500	U-MOSIV
	TK80A04K3L $	40	+/-20	80	2.4	-	190	-	9400	U-MOSIV
	TK3R1A04PL ☆	40	+/-20	82	3.1	3.8	63.4	29.7	4670	U-MOSIX-H
	TK30A06N1	60	+/-20	43[SL]	15	-	16	-	1050	U-MOSVIII-H
	TK8R2A06PL ☆	60	+/-20	50	8.2	11.4	28	15	1990	U-MOSIX-H
	TK40A06N1	60	+/-20	60[SL]	10.4	-	23	-	1700	U-MOSVIII-H
	TK4R3A06PL ☆	60	+/-20	68	4.3	7.2	48.2	23.9	3280	U-MOSIX-H
	TK58A06N1	60	+/-20	105[SL]	5.4	-	46	-	3400	U-MOSVIII-H
	TK5R3A06PL ☆	60	+/-20	62[SL]	5.3	9.3	36	18	2380	U-MOSIX-H
	TK100A06N1	60	+/-20	263[SL]	2.7	-	140	-	10500	U-MOSVIII-H
	TK3R3A06PL ☆	60	+/-20	88[SL]	3.3	4.9	71	35	5000	U-MOS-IX
	TK35A08N1	80	+/-20	55[SL]	12.2	-	25	-	1700	U-MOSVIII-H
	TK46A08N1	80	+/-20	80[SL]	8.4	-	37	-	2500	U-MOSVIII-H
	TK72A08N1	80	+/-20	157[SL]	4.5	-	81	-	5500	U-MOSVIII-H
	TK100A08N1	80	+/-20	214[SL]	3.2	-	130	-	9000	U-MOSVIII-H
	TK25A10K3	100	+/-20	25	40	-	34	-	1580	U-MOSIV
	TK22A10N1	100	+/-20	52[SL]	13.8	-	28	-	1800	U-MOSVIII-H
	TK34A10N1	100	+/-20	75[SL]	9.5	-	38	-	2600	U-MOSVIII-H
	TK40A10N1	100	+/-20	90[SL]	8.2	-	49	-	3000	U-MOSVIII-H
	TK65A10N1	100	+/-20	148[SL]	4.8	-	81	-	5400	U-MOSVIII-H
	TK100A10N1	100	+/-20	207[SL]	3.8	-	140	-	8800	U-MOSVIII-H
	TK32A12N1	120	+/-20	60[SL]	13.8	-	34	-	2000	U-MOSVIII-H
	TK42A12N1	120	+/-20	88[SL]	9.4	-	52	-	3100	U-MOSVIII-H
	TK56A12N1	120	+/-20	112[SL]	7.5	-	69	-	4200	U-MOSVIII-H
	TK72A12N1	120	+/-20	179[SL]	4.5	-	130	-	8100	U-MOSVIII-H
P-ch	TJ9A10M3	-100	+/-20	-9	170	-	47	-	2900	U-MOSVI
	TJ11A10M3	-100	+/-20	-11	130	-	69	-	3200	U-MOSVI
	TJ20A10M3	-100	+/-20	-20	90	-	120	-	5500	U-MOSVI

☆ New Products, $ With protection Zener diode between gate and source, [SL] $I_{D\,(DC)}$ (Silicon Limit)
Note(10) : High-speed / Low-capacitance Type

2. Mid-High Voltage MOSFET Series

DPAK (TO-252) / New PW-Mold

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(Ω)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK10P50W	500	+/-30	9.7	0.43	20	700	DTMOSIV
	TK12P50W	500	+/-30	11.5	0.34	25	890	DTMOSIV
	TK5P60W5 &	600	+/-30	4.5	0.99	11.5	370	DTMOSIV(HSD)
	TK5P60W	600	+/-30	5.4	0.9	10.5	380	DTMOSIV
	TK6P60W	600	+/-30	6.2	0.82	12	390	DTMOSIV
	TK560P60Y ☆	600	+/-30	7	0.56	14.5	380	DTMOSV
	TK7P60W	600	+/-30	7	0.6	15	490	DTMOSIV
	TK7P60W5 &	600	+/-30	7	0.67	16	490	DTMOSIV(HSD)
	TK8P60W5 &	600	+/-30	8	0.56	22	590	DTMOSIV(HSD)
	TK8P60W	600	+/-30	8	0.5	18.5	570	DTMOSIV
	TK10P60W	600	+/-30	9.7	0.43	20	700	DTMOSIV
	TK380P60Y ☆	600	+/-30	9.7	0.38	20	590	DTMOSV
	TK12P60W	600	+/-30	11.5	0.34	25	890	DTMOSIV
	TK290P60Y ☆	600	+/-30	11.5	0.29	25	730	DTMOSV
	TK5P65W	650	+/-30	5.2	1.22	10.5	380	DTMOSIV
	TK6P65W	650	+/-30	5.8	1.05	11	390	DTMOSIV
	TK7P65W	650	+/-30	6.8	0.8	15	490	DTMOSIV
	TK560P65Y ☆	650	+/-30	7	0.56	14.5	380	DTMOSV
	TK8P65W	650	+/-30	7.8	0.67	16	570	DTMOSIV
	TK9P65W	650	+/-30	9.3	0.56	20	700	DTMOSIV
	TK380P65Y ☆	650	+/-30	9.7	0.38	20	590	DTMOSV
	TK11P65W	650	+/-30	11.1	0.44	25	890	DTMOSIV
	TK290P65Y ☆	650	+/-30	11.5	0.29	25	730	DTMOSV
N-ch	TK8P25DA	250	+/-20	7.5	0.5	16	550	π-MOSVII
	TK13P25D	250	+/-20	13	0.25	25	1100	π-MOSVII
	TK3P50D	500	+/-30	3	3	7	280	π-MOSVII
	TK4P50D	500	+/-30	4	2	9	380	π-MOSVII
	TK5P50D	500	+/-30	5	1.5	11	490	π-MOSVII
	TK7P50D	500	+/-30	7	1.22	12	600	π-MOSVII
	TK5P53D	525	+/-30	5	1.5	11	540	π-MOSVII
	TK6P53D	525	+/-30	6	1.3	12	600	π-MOSVII
	TK4P55DA	550	+/-30	3.5	2.45	9	380	π-MOSVII
	TK4P55D	550	+/-30	4	1.88	11	490	π-MOSVII
	TK2P60D	600	+/-30	2	4.3	7	280	π-MOSVII
	TK4P60DA	600	+/-30	3.5	2.2	11	490	π-MOSVII
	TK4P60DB	600	+/-30	3.7	2	11	540	π-MOSVII
	TK4P60D	600	+/-30	4	1.7	12	600	π-MOSVII
	TK3P80E	800	+/-30	3	4.9	12	500	π-MOSVIII
	TK1P90A $	900	+/-30	1	9	13	320	π-MOSIV
	TK2P90E	900	+/-30	2	5.9	12	500	π-MOSVIII

☆ New Products, $ With protection Zener diode between gate and source, & High Speed Diode Type

DFN 8x8

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(Ω)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK10V60W	600	+/-30	9.7	0.38	20	700	DTMOSIV
	TK12V60W	600	+/-30	11.5	0.3	25	890	DTMOSIV
	TK16V60W5 &	600	+/-30	15.8	0.245	43	1350	DTMOSIV(HSD)
	TK16V60W	600	+/-30	15.8	0.19	38	1350	DTMOSIV
	TK20V60W5 &	600	+/-30	20	0.19	55	1800	DTMOSIV(HSD)
	TK20V60W	600	+/-30	20	0.17	48	1680	DTMOSIV
	TK25V60X5 &	600	+/-30	25	0.15	60	2400	DTMOSIV-H(HSD)
	TK25V60X	600	+/-30	25	0.135	40	2400	DTMOSIV-H
	TK31V60W5 &	600	+/-30	30.8	0.109	105	3000	DTMOSIV(HSD)
	TK31V60W	600	+/-30	30.8	0.098	86	3000	DTMOSIV
	TK31V60X	600	+/-30	30.8	0.098	65	3000	DTMOSIV-H
	TK14V65W	650	+/-30	13.7	0.28	35	1300	DTMOSIV
	TK17V65W	650	+/-30	17.3	0.21	45	1800	DTMOSIV
	TK22V65X5 ☆ &	650	+/-30	22	0.17	50	2400	DTMOSIV-H(HSD)
	TK28V65W5 ☆ &	650	+/-30	27.6	0.14	90	3000	DTMOSIV(HSD)
	TK28V65W	650	+/-30	27.6	0.12	75	3000	DTMOSIV

☆ New Products, & High Speed Diode Type

D2PAK

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(Ω)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK16G60W5 &	600	+/-30	15.8	0.23	43	1350	DTMOSIV(HSD)
	TK16G60W	600	+/-30	15.8	0.19	38	1350	DTMOSIV
	TK20G60W	600	+/-30	20	0.155	48	1680	DTMOSIV
	TK14G65W5 &	650	+/-30	13.7	0.3	40	1300	DTMOSIV(HSD)
	TK14G65W	650	+/-30	13.7	0.25	35	1300	DTMOSIV

& High Speed Diode Type

IPAK / New PW-Mold2

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(Ω)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK5Q60W	600	+/-30	5.4	0.9	10.5	380	DTMOSIV
	TK6Q60W	600	+/-30	6.2	0.82	12	390	DTMOSIV
	TK7Q60W	600	+/-30	7	0.6	15	490	DTMOSIV
	TK8Q60W	600	+/-30	8	0.5	18.5	570	DTMOSIV
	TK10Q60W	600	+/-30	9.7	0.43	20	700	DTMOSIV
	TK12Q60W	600	+/-30	11.5	0.34	25	890	DTMOSIV
	TK5Q65W	650	+/-30	5.2	1.22	10.5	380	DTMOSIV
	TK6Q65W	650	+/-30	5.8	1.05	11	390	DTMOSIV
	TK7Q65W	650	+/-30	6.8	0.8	15	490	DTMOSIV
	TK8Q65W	650	+/-30	7.8	0.67	16	570	DTMOSIV
	TK9Q65W	650	+/-30	9.3	0.56	20	700	DTMOSIV
	TK11Q65W	650	+/-30	11.1	0.44	25	890	DTMOSIV
	TK2Q60D	600	+/-30	2	4.3	7	280	π-MOSVII
	TK4Q60DA	600	+/-30	3.5	2.2	11	490	π-MOSVII
	TK1Q90A $	900	+/-30	1	9	13	320	π-MOSIV

$ With protection Zener diode between gate and source

TO-220

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(Ω)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK10E60W	600	+/-30	9.7	0.38	20	700	DTMOSIV
	TK12E60W	600	+/-30	11.5	0.3	25	890	DTMOSIV
	TK16E60W5 &	600	+/-30	15.8	0.23	43	1350	DTMOSIV(HSD)
	TK16E60W	600	+/-30	15.8	0.19	38	1350	DTMOSIV
	TK20E60W5 &	600	+/-30	20	0.175	55	1800	DTMOSIV(HSD)
	TK20E60W	600	+/-30	20	0.155	48	1680	DTMOSIV
	TK25E60X5 &	600	+/-30	25	0.14	60	2400	DTMOSIV-H(HSD)
	TK25E60X	600	+/-30	25	0.125	40	2400	DTMOSIV-H
	TK31E60W	600	+/-30	30.8	0.088	86	3000	DTMOSIV
	TK31E60X	600	+/-30	30.8	0.088	65	3000	DTMOSIV-H
	TK14E65W5 &	650	+/-30	13.7	0.3	40	1300	DTMOSIV(HSD)
	TK14E65W	650	+/-30	13.7	0.25	35	1300	DTMOSIV
	TK17E65W	650	+/-30	17.3	0.2	45	1800	DTMOSIV
	TK28E65W	650	+/-30	27.6	0.11	75	3000	DTMOSIV
	TK7E80W ☆	800	+/-20	6.5	0.95	13	700	DTMOSIV
	TK10E80W ☆	800	+/-20	9.5	0.55	19	1150	DTMOSIV
	TK12E80W	800	+/-20	11.5	0.45	23	1400	DTMOSIV
	TK17E80W	800	+/-20	17	0.29	32	2050	DTMOSIV
N-ch	TK13E25D	250	+/-20	13	0.25	25	1100	π-MOSVII

☆ New Products, & High Speed Diode Type

TO-220SIS

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(Ω)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK10A50W	500	+/-30	9.7	0.38	20	700	DTMOSIV
	TK12A50W	500	+/-30	11.5	0.3	25	890	DTMOSIV
	TK19A50W	500	+/-30	18.5	0.19	38	1350	DTMOSIV
	TK5A60W5 &	600	+/-30	4.5	0.95	11.5	370	DTMOSIV(HSD)
	TK5A60W	600	+/-30	5.4	0.9	10.5	380	DTMOSIV
	TK6A60W	600	+/-30	6.2	0.75	12	390	DTMOSIV
	TK7A60W5 &	600	+/-30	7	0.65	16	490	DTMOSIV(HSD)
	TK7A60W	600	+/-30	7	0.6	15	490	DTMOSIV
	TK560A60Y ☆	600	+/-30	7	0.56	14.5	380	DTMOSV
	TK8A60W5 &	600	+/-30	8	0.54	22	590	DTMOSIV(HSD)
	TK8A60W	600	+/-30	8	0.5	18.5	570	DTMOSIV
	TK10A60W5 &	600	+/-30	9.7	0.45	25	720	DTMOSIV(HSD)
	TK10A60W	600	+/-30	9.7	0.38	20	700	DTMOSIV
	TK380A60Y ☆	600	+/-30	9.7	0.38	20	590	DTMOSV
	TK12A60W	600	+/-30	11.5	0.3	25	890	DTMOSIV
	TK290A60Y ☆	600	+/-30	11.5	0.29	25	730	DTMOSV
	TK16A60W5 &	600	+/-30	15.8	0.23	43	1350	DTMOSIV(HSD)
	TK16A60W	600	+/-30	15.8	0.19	38	1350	DTMOSIV
	TK20A60W5 &	600	+/-30	20	0.175	55	1800	DTMOSIV(HSD)
	TK20A60W	600	+/-30	20	0.155	48	1680	DTMOSIV
	TK25A60X5 &	600	+/-30	25	0.14	60	2400	DTMOSIV-H(HSD)
	TK25A60X	600	+/-30	25	0.125	40	2400	DTMOSIV-H
	TK31A60W	600	+/-30	30.8	0.088	86	3000	DTMOSIV
	TK39A60W	600	+/-30	38.8	0.065	110	4100	DTMOSIV
	TK5A65W	650	+/-30	5.2	1.2	10.5	380	DTMOSIV
	TK6A65W	650	+/-30	5.8	1	11	390	DTMOSIV
	TK7A65W	650	+/-30	6.8	0.78	15	490	DTMOSIV
	TK560A65Y ☆	650	+/-30	7	0.56	14.5	380	DTMOSV
	TK8A65W	650	+/-30	7.8	0.65	16	570	DTMOSIV
	TK9A65W	650	+/-30	9.3	0.5	20	700	DTMOSIV
	TK380A65Y ☆	650	+/-30	9.7	0.38	20	590	DTMOSV
	TK11A65W	650	+/-30	11.1	0.39	25	890	DTMOSIV
	TK290A65Y ☆	650	+/-30	11.5	0.29	25	730	DTMOSV
	TK14A65W5 &	650	+/-30	13.7	0.3	40	1300	DTMOSIV(HSD)
	TK14A65W	650	+/-30	13.7	0.25	35	1300	DTMOSIV
	TK17A65W5 &	650	+/-30	17.3	0.23	50	1800	DTMOSIV(HSD)
	TK17A65W	650	+/-30	17.3	0.2	45	1800	DTMOSIV
	TK22A65X5 ☆ &	650	+/-30	22	0.16	50	2400	DTMOSIV-H(HSD)
	TK22A65X ☆	650	+/-30	22	0.15	50	2400	DTMOSIV-H
	TK28A65W	650	+/-30	27.6	0.11	75	3000	DTMOSIV
	TK35A65W5 &	650	+/-30	35	0.095	115	4100	DTMOSIV(HSD)
	TK35A65W	650	+/-30	35	0.08	100	4100	DTMOSIV
	TK7A80W ☆	800	+/-20	6.5	0.95	13	700	DTMOSIV
	TK10A80W ☆	800	+/-20	9.5	0.55	19	1150	DTMOSIV
	TK12A80W	800	+/-20	11.5	0.45	23	1400	DTMOSIV
	TK17A80W	800	+/-20	17	0.29	32	2050	DTMOSIV

☆ New Products, & High Speed Diode Type

TO-220SIS

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(Ω)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK9A20DA	200	+/-20	8.5	0.4	14	550	π-MOSVII
	TK15A20D	200	+/-20	15	0.18	26	1050	π-MOSVII
	TK20A20D	200	+/-20	20	0.109	43	1650	π-MOSVII
	TK25A20D	200	+/-20	25	0.07	60	2550	π-MOSVII
	TK8A25DA	250	+/-20	7.5	0.5	16	550	π-MOSVII
	TK13A25D	250	+/-20	13	0.25	25	1100	π-MOSVII
	TK17A25D	250	+/-20	17	0.15	43	1650	π-MOSVII
	TK20A25D	250	+/-20	20	0.1	55	2550	π-MOSVII
	TK18A30D	300	+/-20	18	0.139	60	2600	π-MOSVII
	TK5A45DA	450	+/-30	4.5	1.75	9	380	π-MOSVII
	TK6A45DA	450	+/-30	5.5	1.35	11	490	π-MOSVII
	TK7A45DA	450	+/-30	6.5	1.2	11	540	π-MOSVII
	TK8A45D	450	+/-30	8	0.9	16	700	π-MOSVII
	TK9A45D	450	+/-30	9	0.77	16	800	π-MOSVII
	TK11A45D	450	+/-30	11	0.62	20	1050	π-MOSVII
	TK12A45D	450	+/-30	12	0.52	24	1200	π-MOSVII
	TK13A45D	450	+/-30	13	0.46	25	1350	π-MOSVII
	TK19A45D	450	+/-30	19	0.25	45	2600	π-MOSVII
	TK4A50D	500	+/-30	4	2	9	380	π-MOSVII
	TK5A50D	500	+/-30	5	1.5	11	490	π-MOSVII
	TK6A50D	500	+/-30	6	1.4	11	540	π-MOSVII
	TK7A50D5 &	500	+/-30	7	1.68	12	600	π-MOSVII (HSD)
	TK7A50D	500	+/-30	7	1.22	12	600	π-MOSVII
	TK8A50DA	500	+/-30	7.5	1.04	16	700	π-MOSVII
	TK8A50D	500	+/-30	8	0.85	16	800	π-MOSVII
	TK10A50D	500	+/-30	10	0.72	20	1050	π-MOSVII
	TK11A50D	500	+/-30	11	0.6	24	1200	π-MOSVII
	TK12A50D5 &	500	+/-30	12	0.73	30	1200	π-MOSVII (HSD)
	TK12A50D	500	+/-30	12	0.52	25	1350	π-MOSVII
	TK13A50DA	500	+/-30	12.5	0.47	28	1550	π-MOSVII
	TK13A50D	500	+/-30	13	0.4	38	1800	π-MOSVII
	TK15A50D	500	+/-30	15	0.3	40	2300	π-MOSVII
	TK18A50D	500	+/-30	18	0.27	45	2600	π-MOSVII
	TK4A53D	525	+/-30	4	1.7	11	490	π-MOSVII
	TK5A53D	525	+/-30	5	1.5	11	540	π-MOSVII
	TK6A53D	525	+/-30	6	1.3	12	600	π-MOSVII
	TK12A53D	525	+/-30	12	0.58	25	1350	π-MOSVII
	TK4A55DA	550	+/-30	3.5	2.45	9	380	π-MOSVII
	TK4A55D	550	+/-30	4	1.88	11	490	π-MOSVII
	TK5A55D	550	+/-30	5	1.7	11	540	π-MOSVII
	TK6A55DA	550	+/-30	5.5	1.48	12	600	π-MOSVII
	TK7A55D	550	+/-30	7	1.25	16	700	π-MOSVII
	TK8A55DA	550	+/-30	7.5	1.07	16	800	π-MOSVII
	TK9A55DA	550	+/-30	8.5	0.86	20	1050	π-MOSVII
	TK10A55D	550	+/-30	10	0.72	24	1200	π-MOSVII
	TK11A55D	550	+/-30	11	0.63	25	1350	π-MOSVII
	TK12A55D	550	+/-30	12	0.57	28	1550	π-MOSVII
	TK13A55DA	550	+/-30	12.5	0.48	38	1800	π-MOSVII
	TK14A55D	550	+/-30	14	0.37	40	2300	π-MOSVII

& High Speed Diode Type

TO-220SIS

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(Ω)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK16A55D	550	+/-30	16	0.33	45	2600	π-MOSVII
	TK3A60DA	600	+/-30	2.5	2.8	9	380	π-MOSVII
	TK4A60DA5 &	600	+/-30	3.5	3.08	11	490	π-MOSVII (HSD)
	TK4A60DA	600	+/-30	3.5	2.2	11	490	π-MOSVII
	TK4A60DB	600	+/-30	3.7	2.0	11	540	π-MOSVII
	TK4A60D5 &	600	+/-30	4	2.4	12	1200	π-MOSVII (HSD)
	TK4A60D	600	+/-30	4	1.7	12	600	π-MOSVII
	TK5A60D	600	+/-30	5	1.43	16	700	π-MOSVII
	TK6A60D	600	+/-30	6	1.25	16	800	π-MOSVII
	TK8A60DA	600	+/-30	7.5	1.0	20	1050	π-MOSVII
	TK9A60D	600	+/-30	9	0.83	24	1200	π-MOSVII
	TK10A60D5 &	600	+/-30	10	1.05	25	1350	π-MOSVII (HSD)
	TK10A60D	600	+/-30	10	0.75	25	1350	π-MOSVII
	TK11A60D	600	+/-30	11	0.65	28	1550	π-MOSVII
	TK12A60D	600	+/-30	12	0.55	38	1800	π-MOSVII
	TK13A60D	600	+/-30	13	0.43	40	2300	π-MOSVII
	TK15A60D	600	+/-30	15	0.37	45	2600	π-MOSVII
	TK2A65D	650	+/-30	2	3.26	9	380	π-MOSVII
	TK3A65DA	650	+/-30	2.5	2.51	11	490	π-MOSVII
	TK3A65D	650	+/-30	3	2.25	11	540	π-MOSVII
	TK4A65DA	650	+/-30	3.5	1.9	12	600	π-MOSVII
	TK5A65DA	650	+/-30	4.5	1.67	16	700	π-MOSVII
	TK5A65D	650	+/-30	5	1.43	16	800	π-MOSVII
	TK6A65D	650	+/-30	6	1.11	20	1050	π-MOSVII
	TK7A65D	650	+/-30	7	0.98	24	1200	π-MOSVII
	TK8A65D	650	+/-30	8	0.84	25	1350	π-MOSVII
	TK11A65D	650	+/-30	11	0.7	30	1700	π-MOSVII
	TK12A65D	650	+/-30	12	0.54	40	2300	π-MOSVII
	TK13A65D	650	+/-30	13	0.47	45	2600	π-MOSVII
	TK4A80E	800	+/-30	4	3.5	15	650	π-MOSVIII
	TK5A80E	800	+/-30	5	2.4	20	950	π-MOSVIII
	TK6A80E	800	+/-30	6	1.7	32	1350	π-MOSVIII
	2SK4013	800	+/-30	6	1.7	45	1400	π-MOSIV
	TK10A80E	800	+/-30	10	1	46	2000	π-MOSVIII
	2SK3566	900	+/-30	2.5	6.4	12	470	π-MOSIV
	TK3A90E	900	+/-30	2.5	4.6	15	650	π-MOSVIII
	2SK3564	900	+/-30	3	4.3	17	700	π-MOSIV
	2SK3798	900	+/-30	4	3.5	26	800	π-MOSIV
	TK5A90E	900	+/-30	4.5	3.1	20	950	π-MOSVIII
	2SK3565	900	+/-30	5	2.5	28	1150	π-MOSIV
	2SK3742	900	+/-30	5	2.5	25	1150	π-MOSIV
	2SK4014	900	+/-30	6	2	45	1400	π-MOSIV
	TK7A90E	900	+/-30	7	2	32	1350	π-MOSVIII
	2SK3799	900	+/-30	8	1.3	60	2200	π-MOSIV
	TK9A90E	900	+/-30	9	1.3	46	2000	π-MOSVIII
	TK650A60F ☆	600	+/-30	11	0.65	34	1320	π-MOSIX
	TK750A60F ☆	600	+/-30	10	0.75	30	1130	π-MOSIX
	TK1K2A60F ☆	600	+/-30	6	1.2	21	740	π-MOSIX
	TK1K9A60F ☆	600	+/-30	3.7	1.9	14	490	π-MOSIX

☆ New Products, & High Speed Diode Type

TO-3P(N)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(Ω)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK12J60W	600	+/-30	11.5	0.3	25	890	DTMOSIV
	TK16J60W5 &	600	+/-30	15.8	0.23	43	1350	DTMOSIV(HSD)
	TK16J60W	600	+/-30	15.8	0.19	38	1350	DTMOSIV
	TK20J60W5 &	600	+/-30	20	0.175	55	1800	DTMOSIV(HSD)
	TK20J60W	600	+/-30	20	0.155	48	1680	DTMOSIV
	TK31J60W5 &	600	+/-30	30.8	0.099	105	3000	DTMOSIV(HSD)
	TK31J60W	600	+/-30	30.8	0.088	86	3000	DTMOSIV
	TK39J60W5 &	600	+/-30	38.8	0.074	135	4100	DTMOSIV(HSD)
	TK39J60W	600	+/-30	38.8	0.065	110	4100	DTMOSIV
	TK62J60W5 &	600	+/-30	61.8	0.045	205	6500	DTMOSIV(HSD)
	TK62J60W	600	+/-30	61.8	0.04	180	6500	DTMOSIV
N-ch	TK40J20D	200	+/-20	40	0.044	100	4300	π-MOSVII
	TK70J20D	200	+/-20	70	0.027	160	6950	π-MOSVII
	TK30J25D	250	+/-20	30	0.06	100	4300	π-MOSVII
	TK60J25D	250	+/-20	60	0.038	160	7000	π-MOSVII
	TK50J30D	300	+/-20	50	0.052	160	7000	π-MOSVII
	TK15J50D	500	+/-30	15	0.4	38	1800	π-MOSVII
	TK20J50D	500	+/-30	20	0.27	45	2600	π-MOSVII
	TK12J55D	550	+/-30	12	0.57	28	1550	π-MOSVII
	TK16J55D	550	+/-30	16	0.37	40	2300	π-MOSVII
	TK19J55D	550	+/-30	19	0.33	45	2600	π-MOSVII
	2SK3633	800	+/-30	7	1.7	35	1500	π-MOSIV
	TK10J80E	800	+/-30	10	1	46	2000	π-MOSVIII
	2SK3700	900	+/-30	5	2.5	28	1150	π-MOSIV
	2SK4115	900	+/-30	7	2	45	1650	π-MOSIV
	TK7J90E	900	+/-30	7	2	32	1350	π-MOSVIII
	TK9J90E	900	+/-30	9	1.3	46	2000	π-MOSVIII
	2SK4207	900	+/-30	13	0.95	45	2790	π-MOSIV

& High Speed Diode Type

TO-247

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(Ω)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK16N60W5 &	600	+/-30	15.8	0.23	43	1350	DTMOSIV(HSD)
	TK16N60W	600	+/-30	15.8	0.19	38	1350	DTMOSIV
	TK20N60W5 &	600	+/-30	20	0.175	55	1800	DTMOSIV(HSD)
	TK20N60W	600	+/-30	20	0.155	48	1680	DTMOSIV
	TK25N60X5 &	600	+/-30	25	0.14	60	2400	DTMOSIV-H(HSD)
	TK25N60X	600	+/-30	25	0.125	40	2400	DTMOSIV-H
	TK31N60W5 &	600	+/-30	30.8	0.099	105	3000	DTMOSIV(HSD)
	TK31N60W	600	+/-30	30.8	0.088	86	3000	DTMOSIV
	TK31N60X	600	+/-30	30.8	0.088	65	3000	DTMOSIV-H
	TK39N60W5 &	600	+/-30	38.8	0.074	135	4100	DTMOSIV(HSD)
	TK39N60W	600	+/-30	38.8	0.065	110	4100	DTMOSIV
	TK39N60X	600	+/-30	38.8	0.065	85	4100	DTMOSIV-H
	TK62N60W5 &	600	+/-30	61.8	0.045	205	6500	DTMOSIV(HSD)
	TK62N60W	600	+/-30	61.8	0.04	180	6500	DTMOSIV
	TK62N60X	600	+/-30	61.8	0.04	135	6500	DTMOSIV-H
	TK14N65W5 &	650	+/-30	13.7	0.3	40	1300	DTMOSIV(HSD)
	TK14N65W	650	+/-30	13.7	0.25	35	1300	DTMOSIV
	TK17N65W	650	+/-30	17.3	0.2	45	1800	DTMOSIV
	TK28N65W5 &	650	+/-30	27.6	0.13	90	3000	DTMOSIV(HSD)
	TK28N65W	650	+/-30	27.6	0.11	75	3000	DTMOSIV
	TK35N65W5 &	650	+/-30	35	0.095	115	4100	DTMOSIV(HSD)
	TK35N65W	650	+/-30	35	0.08	100	4100	DTMOSIV
	TK49N65W5 &	650	+/-30	49.2	0.057	185	6500	DTMOSIV(HSD)
	TK49N65W	650	+/-30	49.2	0.055	160	6500	DTMOSIV

& High Speed Diode Type

TO-247 4L

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(Ω)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK25Z60X	600	+/-30	25	0.125	40	2400	DTMOSIV-H
	TK31Z60X	600	+/-30	30.8	0.088	65	3000	DTMOSIV-H
	TK39Z60X	600	+/-30	38.8	0.065	85	4100	DTMOSIV-H
	TK62Z60X	600	+/-30	61.8	0.04	135	6500	DTMOSIV-H

TO-3P(L)

Circuit Configuration	Part Number	Absolute Maximum Ratings			$R_{DS(ON)}$ max(Ω)	Q_g typ.	C_{iss} typ.	Remark
		V_{DSS}(V)	V_{GSS}(V)	I_D(A)	V_{GS}=10V	(nC)	(pF)	
N-ch	TK100L60W	600	+/-30	100	0.018	360	15000	DTMOSIV

3. Part Naming Conventions

JEITA registration Item Series

Ex) N-channel MOS　　P-channel MOS

2SK ＊＊＊＊　　2SJ ＊＊＊＊

Conventional Multi-Pin Series

Ex) TPC8 0 67 -H
① ② ③ ④

① Package
TPC6 : VS-6 Series
TPCF8 : VS-8 Series
TPCP8 : PS-8 Series
TPCC8 : TSON Advance Series
TPC8 : SOP-8 Series
TPCA8 : SOP Advance Series

② Polarity / Configuration
0 : N-channel, single　4 : N-channel and P-channel, dual
1 : P-channel, single　A : N-channel and SBD
2 : N-channel, dual　B : P-channel and SBD
3 : P-channel, dual　J : P-channel and NPN

③ Serial number of the products

④ Additional information
H : High-speed type
None : Low-on-resistance type

New Multi-Pin Series

Ex) TPH 4R3 0 4 N C
① ② ③ ④ ⑤ ⑥

① Package
TP6 : VS-6 Series　TPW : DSOP Advance Series
TPF : VS-8 Series　TP8 : SOP-8 Series
TPP : PS-8 Series　TPH : SOP Advance Series
TPN : TSON Advance Series

② Max. on-resistance　(at max drive conditions)
R79 = 0.79 mΩ　100 = 10 x 100 = 10 mΩ
4R3 = 4.3 mΩ　101 = 10 x 101 = 100 mΩ

③ Polarity / Configuration
0 : Single N-ch　4 : Dual N-ch + P-ch
1 : Single P-ch　A : Dual N-ch MOS + SBD
2 : Dual N-ch　B : Dual P-ch MOS + SBD
3 : Dual P-ch

④ Drain-source voltage (V_{DSS})
2 : 15 to 24V　7 : 65 to 74V　D : 180 to 199V
3 : 25 to 34V　8 : 75 to 84V　E : 200 to 249V
4 : 35 to 44V　A : 95 to 124V　F : 250 to 299V
5 : 45 to 54V　B : 125 to 149V
6 : 55 to 64V　C : 150 to 179V

⑤ Series
G : U-MOSⅧ　N : U-MOSⅧ
M : U-MOSⅥ　P : U-MOSⅨ

⑥ Additional information
1 to 5 : Serial number of the products
A : V_{GS} = 10V (Drive)
B : V_{GS} = 6V (Drive)
C : V_{GS} = 4.5V (Drive)
D : V_{GS} = 2.5V (Drive)
E : V_{GS} = 2.0V (Drive)
F : V_{GS} = 1.8V (Drive)
H : Low-rg, V_{GS} =10 V (Drive)
M : Low-rg, V_{GS} =6 V (Drive)
L : Low-rg, V_{GS} =4.5 V (Drive)
Q : $T_{ch(max)}$ = Guaranteed up to 175℃＋ZD
R : $T_{ch(max)}$ = Guaranteed up to 150℃＋ZD
S : $T_{ch(max)}$ = Guaranteed up to 175℃
T : $T_{ch(max)}$ = Guaranteed up to 150℃

3-Pin Series

Ex) TK 40 S 10 K 3 Z
① ② ③ ④ ⑤ ⑥ ⑦

① Polarity
TK: N-channel　TJ: P-channel

② Drain current (I_D)

③ Package
A : TO-220SIS　M : TO-3P(N)IS　Z : TO-247 4L
E : TO-220　N : TO-247
F : TO-220SM(W)　P : DPAK/New PW-Mold
G : D2PAK　Q : IPAK/New PW-Mold2
J : TO-3P(N)　S : DPAK+
L : TO-3P(L)　V : DFN8 x 8

④ Drain-source voltage(V_{DSS}) Display value × 10 = V_{DSS}
06 : V_{DSS}=60 V　10 : V_{DSS}=100 V

⑤ Series
A : π-MOSⅣ　J : U-MOSⅢ　U : DTMOSⅡ
C : π-MOSⅥ　K : U-MOSⅣ　V : DTMOSⅢ
D : π-MOSⅦ　M : U-MOSⅥ　W : DTMOSⅣ
E : π-MOSⅧ　N : U-MOSⅧ　X : DTMOSⅣ-H

⑥ Additional information (1)
1 : Low-capacitance type　5 : Fast body diode type
3 : Low-on-resistance type

⑦ Additional information (2)
L : V_{GS} = 4.5V（Drive）　S : V_{GS} = 4.5V (Drive)
H : V_{GS} = 10 V （Drive）　Z : With protection Zener diode
M : V_{GS} = 6 V（Drive）　between gate and source

New 3-Pin Series

Ex) TK R74 F 04 P B
① ② ③ ④ ⑤ ⑥

① Polarity
TK: N-channel　TJ: P-channel

② Max. on-resistance V_{DSS} = 400 V less than the product
(at max drive conditions)
R74 = 0.74 mΩ　100 = 10 x 100 = 10 mΩ
8R2 = 8.2 mΩ　101 = 10 x 101 = 100 mΩ
Max, on-resistance VDSS = 400 V or more products
(at max drive conditions)
047 = 0.047 Ω　410 = 0.41 Ω　4K7 = 4.7 Ω

③ Package
A : TO-220SIS　M : TO-3P(N)IS　V : DFN8 x 8
E : TO-220　N : TO-247　Z : TO-247 4L
F : TO-220SM(W)　P : DPAK/New PW-Mold
G : D2PAK　Q : IPAK/New PW-Mold 2
J : TO-3P(N)　R : R : D2PAK+
L : TO-3P(L)　S : DPAK+

④ Drain-source voltage(V_{DSS}) : Display value × 10 times = V_{DSS}
04: V_{DSS}=40V
10: V_{DSS}=100V

⑤ Series
G : U-MOSⅧ　N : U-MOSⅧ　Y : DTMOSⅤ
M : U-MOSⅥ　P : U-MOSⅨ

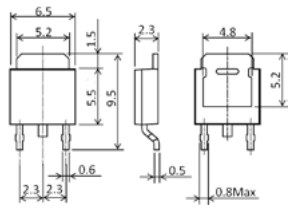
⑥ Additional information
A : V_{GS} = 10 V (Drive)　H : Low-rg, V_{GS} = 10 V (Drive)
B : V_{GS} = 6 V (Drive)　M : Low-rg, V_{GS} =6 V (Drive)
C : V_{GS} = 4.5 V (Drive)　L : Low-rg, V_{GS} =4.5 V (Drive)

4. Device Packages

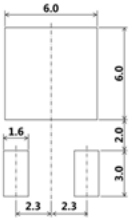
Dimensional Out Line

DPAK+ (6.5x9.5)

Package dimension unit : mm

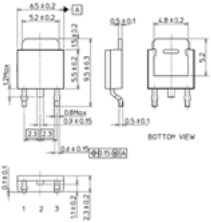


Land pattern example unit : mm

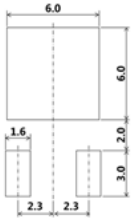


New PW-Mold (6.5x9.5)

Package dimension unit : mm

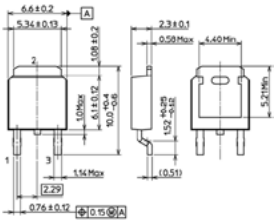


Land pattern example unit : mm

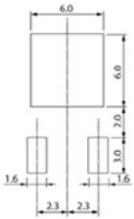


DPAK 2-7K1S (TO-252) (6.6x10.0)

Package dimension unit : mm

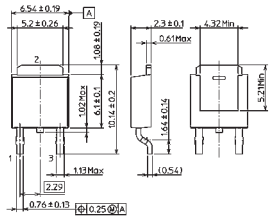


Land pattern example unit : mm

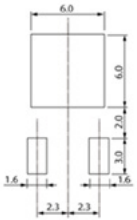


DPAK 2-7N1S (TO-252) (6.6x10.0)

Package dimension unit : mm

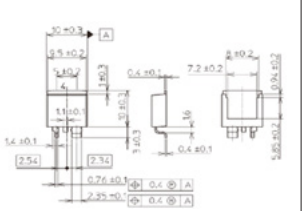


Land pattern example unit : mm

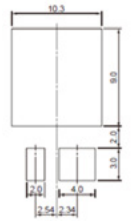


TO-220SM(W) (10.0x13.0)

Package dimension unit : mm

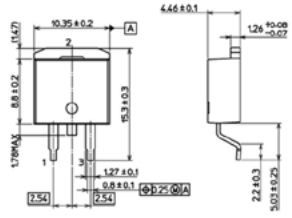


Land pattern example unit : mm

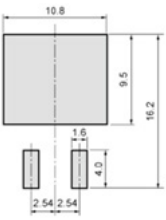


D2PAK (10.35x15.3)

Package dimension unit : mm

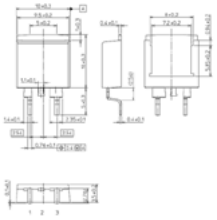


Land pattern example unit : mm

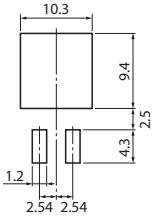


D2PAK+ (10.0x15.0)

Package dimension unit : mm

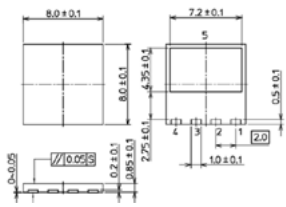


Land pattern example unit : mm

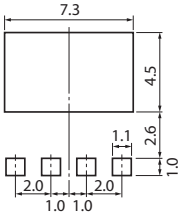


DFN8X8 (8.0x8.0)

Package dimension unit : mm

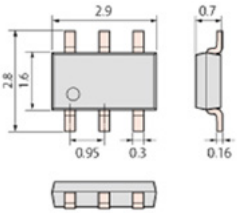


Land pattern example unit : mm

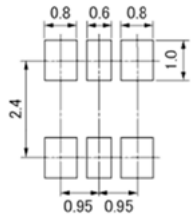


VS-6 (2.9x2.8)

Package dimension unit : mm

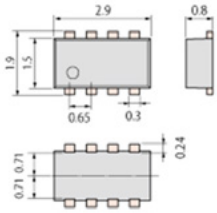


Land pattern example unit : mm

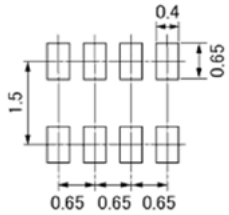


VS-8 (2.9x1.9)

Package dimension unit : mm

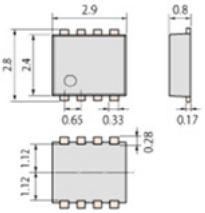


Land pattern example unit : mm

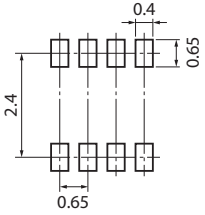


PS-8 (2.9x2.8)

Package dimension unit : mm

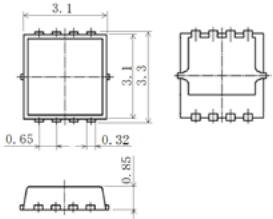


Land pattern example unit : mm

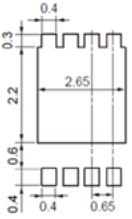


TSON Advance (3.1x3.3)

Package dimension unit : mm



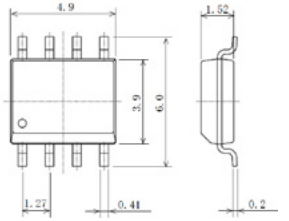
Land pattern example unit : mm



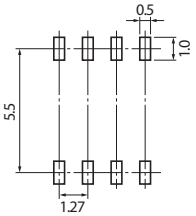
Dimensional Out Line

SOP-8 2-5R1S (5.0x6.0)

Package dimension unit : mm

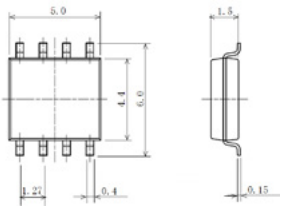


Land pattern example unit : mm

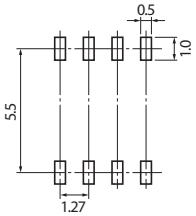


SOP-8 2-6J1S (5.0x6.0)

Package dimension unit : mm

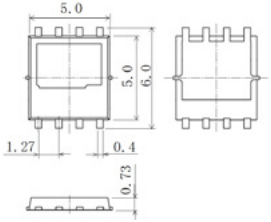


Land pattern example unit : mm

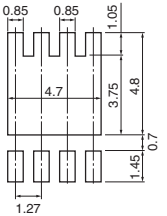


DSOP Advance (5.0x6.0)

Package dimension unit : mm

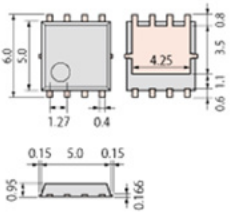


Land pattern example unit : mm

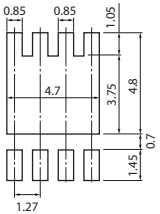


SOP Advance (5.0x6.0)

Package dimension unit : mm

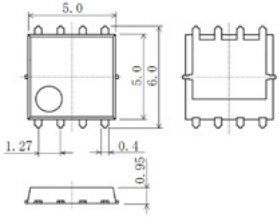


Land pattern example unit : mm

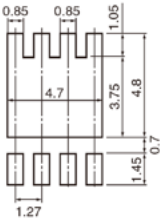


SOP Advance(WF) (5.0x6.0) ★

Package dimension unit : mm



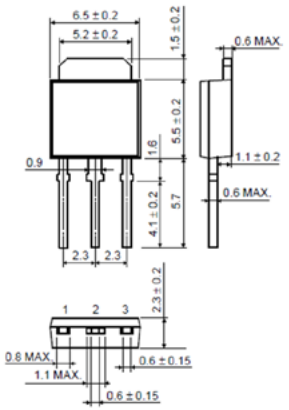
Land pattern example unit : mm



★ Wettable Flank Lead Terminal

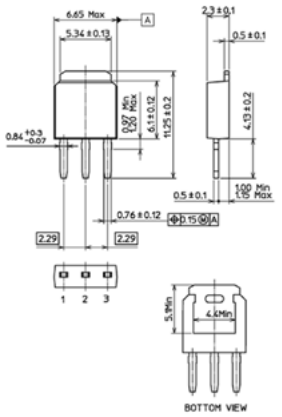
New PW-Mold2 (6.5x5.5)

Package dimension unit : mm



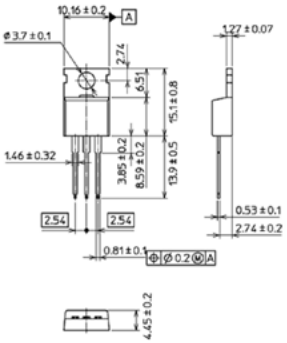
IPAK (6.65x6.1)

Package dimension unit : mm



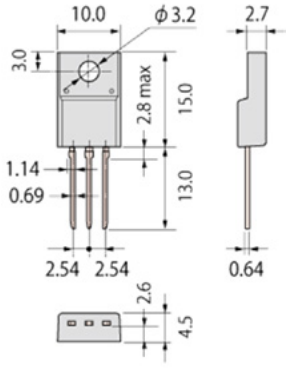
TO-220 (10.16x15.1)

Package dimension unit : mm



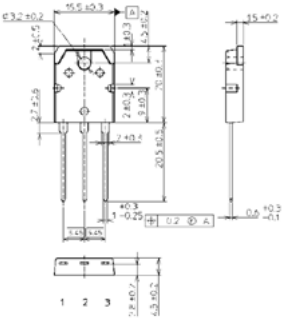
TO-220SIS (SC-67) (10.0x15.0)

Package dimension unit : mm



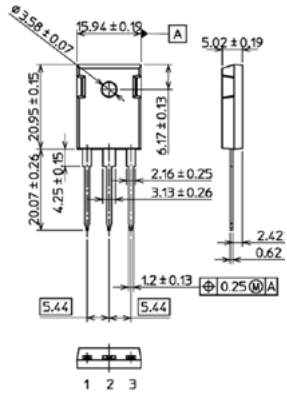
TO-3P(N) (SC-65) (15.9x20.0)

Package dimension unit : mm



TO-247 (15.94x20.95)

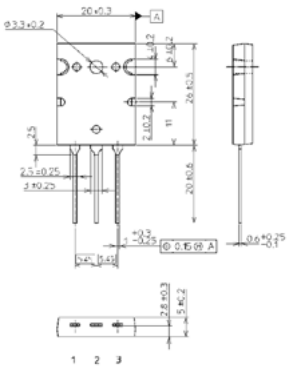
Package dimension unit : mm



Dimensional Out Line

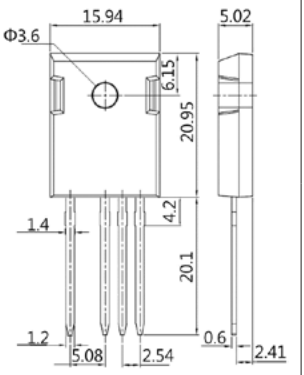
TO-3P(L) (20.0x26.0)

Package dimension unit : mm



TO-247 4L (15.94x20.95)

Package dimension unit : mm



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