

## Introduction of TOSHIBA MOSFET for automotive and industrial use

TOSHIBA CORPORATION MOSFET offers a wide range of configurations and package lineups, from low-voltage components to medium-and high-voltage components that support automotive and industrial equipment, with features such as high-speed, high-performance, low-loss, low-on-resistance, and compact packages. Currently, we are expanding our lineup of pressure-resistant 650V, 1200V from the third-generation SiC MOSFET, pressure-resistant 400V to 900V Si medium-to high-pressure-resistant product "DTMOS" series, and 12V to 300V Si low-pressure-resistant product "U-MOS" series.

### Introduction of Automotive MOSFETs

We offer an extensive lineup that covers a variety of applications for 12V to 48V system for automotive applications. We have developed a state-of-the-art wafer process. This process reduces switching noise, which is a problem in automotive equipment. In addition, we combine low-resistance packaging technology to achieve low-noise and low-on-resistance products. These technologies will help reduce the energy loss and size of in-vehicle devices.

#### Features of Automotive MOSFETs

- ✓ Providing a lineup suitable for a variety of in-vehicle applications for 12V to 48V system.
- ✓ New packaging S-TOGL™ with low RON and compact size.
- ✓ Excellent heat dissipation and reduced conduction loss due to low on-resistance contribute to miniaturization of the set.

[Click Here](#)  
List of in-vehicle MOSFET

### Introduction to industrial Si MOSFETs

We offer a lineup of 12V-300V Si low-voltage MOSFET suitable for industrial use and 400V-900V Si medium-and high-voltage MOSFET. We offer products that are ideal for industrial equipment that require high efficiency with low noise and low switching loss.

#### Features of Industrial MOSFETs

- ✓ Packages and product variations for ultra-small size to large current.
- ✓ Highly efficient power supply with superior  $R_{DS(ON)} \times Q_{gd}$  performance.
- ✓ 150 to 175°C high temperature guarantee, high avalanche tolerance.

[Click Here](#)  
List of industrial Si MOSFETs

### Introduction of 3G SiC MOSFETs for industrial use

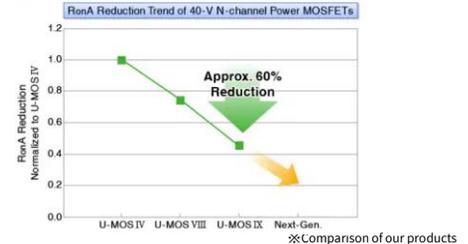
The third-generation SiC MOSFET offers a lineup of 650 V and 1200 V withstand voltage products. These products are used in applications such as servers, uninterruptible power supplies (UPS), and solar inverters, contributing to lower-loss equipment.

#### Features of 3G SiC MOSFET

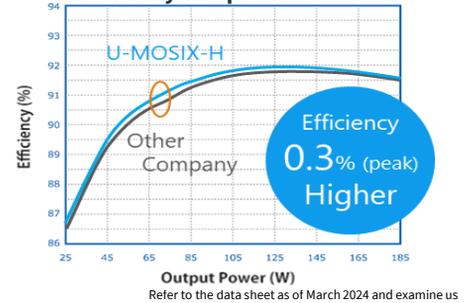
- ✓ Built-in Schottky Barrier Diode (SBD) for low-back-continuity  $V_{DSF}$  to reduce on-resistance  $R_{DS(ON)}$  variations.
- ✓ Performance index  $R_{DS(ON)} \times Q_{gd}$ , which shows the relation between the continuity loss and the switching loss, contributes to the reduction of the loss of the equipment.
- ✓ Wide Gate-to-Source Voltage  $V_{GSS}$ .

[Click Here](#)  
List of industrial SiC MOSFET

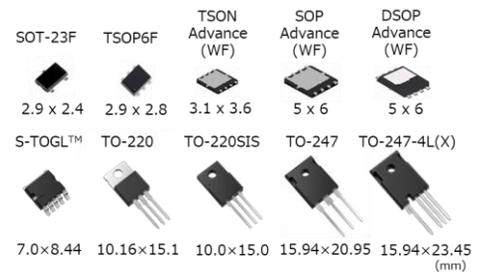
#### Ron performance



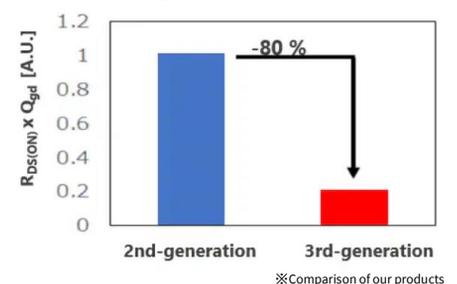
#### Efficiency comparison



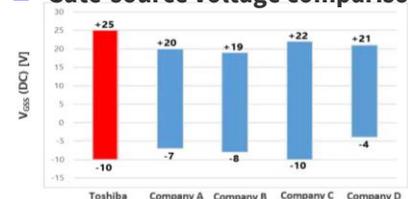
#### Extensive package lineup



#### $R_{DS(ON)} \times Q_{gd}$ performance



#### Gate-source voltage comparison





## Automotive MOSFET Selection Table

### [N-Channel LV-MOSFETs] (Automotive)

Part number	Package	VDSS (V)	VGSS (V)	ID (A)	RON max (mΩ)				Ciss (pF) Typ	Crss (pF) Typ	Qg (nC) Typ	Qgd (nC) Typ	Qrr (nC) Typ	Purchase
					1.8V	4.5V	6.0V	10V						
<a href="#">XPQR3004PB</a>	L-TOGL™,9.9×11.81	40	±20	400	-	-	0.47	0.3	20700	1500	295	80	-	<a href="#">Buy Online</a>
<a href="#">XPQ1R004PB</a>	L-TOGL™,9.9×11.81	40	±20	200	-	-	1.8	1.0	5300	400	84	19	-	<a href="#">Buy Online</a>
<a href="#">XPJR6604PB</a>	S-TOGL™,7.0×8.44	40	±20	200	-	-	1.16	0.66	8750	780	128	29	-	<a href="#">Buy Online</a>
<a href="#">XPJ1R004PB</a>	S-TOGL™,7.0×8.44	40	±20	160	-	-	1.8	1.0	5300	400	84	19	-	<a href="#">Buy Online</a>
<a href="#">XPHR7904PS</a>	SOP Advance(WF),5×6	40	±20	150	-	-	1.3	0.79	6650	490	85	14	-	<a href="#">Buy Online</a>
<a href="#">XPHR9904PS</a>	SOP Advance(WF),5×6	40	±20	130	-	-	1.63	0.99	5520	460	83	25	-	<a href="#">Buy Online</a>
<a href="#">XPH1R104PS</a>	SOP Advance(WF),5×6	40	±20	120	-	-	1.96	1.14	4560	320	55	13	-	<a href="#">Buy Online</a>
<a href="#">XPH2R404PS</a>	SOP Advance(WF),5×6	40	±20	90	-	-	4.1	2.4	2500	190	40	7	-	<a href="#">Buy Online</a>
<a href="#">XPH3R304PS</a>	SOP Advance(WF),5×6	40	±20	60	-	-	6.3	3.3	1660	145	30	6	-	<a href="#">Buy Online</a>
<a href="#">XPQR8308QB</a>	L-TOGL™,9.9×11.81	80	±20	350	-	-	1.23	0.83	19000	1000	305	70	-	<a href="#">Buy Online</a>
<a href="#">XPH4R10ANB</a>	SOP Advance(WF),5×6	80	±20	70	-	-	6.2	4.1	4970	300	75	16	-	<a href="#">Buy Online</a>
<a href="#">XPH6R30ANB</a>	SOP Advance(WF),5×6	80	±20	45	-	-	9.5	6.3	3240	200	52	11	-	<a href="#">Buy Online</a>
<a href="#">XPW4R10ANB</a>	DSOP Advance(WF)L,5×6	80	±20	70	-	-	6.2	4.1	4970	300	75	16	-	<a href="#">Buy Online</a>
<a href="#">XPW6R30ANB</a>	DSOP Advance(WF)M,5×6	80	±20	45	-	-	9.5	6.3	3240	200	52	11	-	<a href="#">Buy Online</a>
<a href="#">XPN1300ANC</a>	TSON Advance(WF),3.3×3.6	80	±20	30	-	24.2	-	13.3	1470	93	28	5	-	<a href="#">Buy Online</a>
<a href="#">XPQ1R00AQB</a>	L-TOGL™,9.9×11.81	100	±20	300	-	-	1.93	1.03	16500	1000	269	73	-	<a href="#">Buy Online</a>

### [P-Channel LV-MOSFETs] (Automotive)

Part number	Package	VDSS (V)	VGSS (V)	ID (A)	RON max (mΩ)				Ciss (pF) Typ	Crss (pF) Typ	Qg (nC) Typ	Qgd (nC) Typ	Qrr (nC) Typ	Purchase
					1.8V	4.5V	6.0V	10V						
<a href="#">XPH3R114MC</a>	SOP Advance(WF),5×6	-40	+10/-20V	-100	-	4.7	-	3.1	9500	1110	230	58	-	<a href="#">Buy Online</a>
<a href="#">XPH4R714MC</a>	SOP Advance(WF),5×6	-40	+10/-20V	-60	-	6.9	-	4.7	5640	685	140	36	-	<a href="#">Buy Online</a>
<a href="#">XPN9R614MC</a>	TSON Advance(WF),3.3×3.6	-40	+10/-20V	-40	-	13.4	-	9.6	3000	335	64	17	-	<a href="#">Buy Online</a>
<a href="#">XPN19014MC</a>	TSON Advance(WF),3.3×3.6	-40	+10/-20V	-20	-	29.2	-	18.7	1600	200	51	16	-	<a href="#">Buy Online</a>
<a href="#">XPH8R316MC</a>	SOP Advance(WF),5×6	-60	+10/-20V	-90	-	10.2	-	8.3	10500	740	222	47	-	<a href="#">Buy Online</a>
<a href="#">XPH13016MC</a>	SOP Advance(WF),5×6	-60	+10/-20V	-60	-	16.6	-	12.9	6820	460	148	39	-	<a href="#">Buy Online</a>
<a href="#">XPN27016MC</a>	TSON Advance(WF),3.3×3.6	-60	+10/-20V	-25	-	36.0	-	27.3	2900	220	71	19	-	<a href="#">Buy Online</a>

## [N-Channel LV-MOSFETs (Small Signal)] (Automotive)

Part number	Package	VDSS (V)	VGSS (V)	ID (A)	RON max (mΩ)				Ciss (pF) Typ	Qgs (nC) Typ	Qgd (nC) Typ	Qoss (nC) Typ	Qrr (nC) Typ	Purchase
					1.8V	2.5V	4.5V	10V						
<a href="#">SSM3K62TU</a>	UFM,2.0×2.1	20	±8	0.8	89	69	57	-	177	1.3	0.6	-	-	<a href="#">Buy Online</a>
<a href="#">SSM6N62TU</a>	UF6,2.0×2.1	20	±8	0.8	120	98	85	-	177	1.3	0.6	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K376R</a>	SOT-23F,2.9×2.4	30	+12/-8	4	109	72	56	-	200	0.5	0.9	-	-	<a href="#">Buy Online</a>
<a href="#">XSM6K376NW</a>	DFN2020B(WF),2.0×2.0	30	+12/-8	4	109	72	56	-	200	0.5	0.9	-	-	<a href="#">Buy Online</a>
<a href="#">XSM6K336NW</a>	DFN2020B(WF),2.0×2.0	30	±20	3	-	-	140	95	126	0.8	0.7	-	-	<a href="#">Buy Online</a>
<a href="#">XSM6K519NW</a>	DFN2020B(WF),2.0×2.0	40	±20	8	-	-	36.3	15.3	797	2.7	2.7	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K341TU</a>	UFM,2.0×2.1	60	±20	6	-	-	51	36	550	1.8	2	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K341R</a>	SOT-23F,2.9×2.4	60	±20	6	-	-	51	36	550	1.8	2	-	-	<a href="#">Buy Online</a>
<a href="#">SSM6K809R</a>	TSOP6F,2.9×2.8	60	±20	6	-	-	51	36	550	1.8	9.3	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K72KFS</a>	SSM,1.6×1.6	60	±20	0.3	-	-	1750	1500	26	0.2	0.11	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K7002KFU</a>	USM,2.0×2.1	60	±20	0.4	-	-	1750	1500	26	0.2	0.11	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K7002KF</a>	S-Mini,2.9×2.5	60	±20	0.4	-	-	1750	1500	26	0.2	0.11	-	-	<a href="#">Buy Online</a>
<a href="#">SSM6N7002KFU</a>	UF6,2.0×2.1	60	±20	0.3	-	-	1750	1500	26	0.2	0.11	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K361TU</a>	UFM,2.0×2.1	100	±20	3.5	-	-	92	69	430	1.1	1.5	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K361R</a>	SOT-23F,2.9×2.4	100	±20	3.5	-	-	92	69	430	1.1	1.5	-	-	<a href="#">Buy Online</a>
<a href="#">SSM6K810R</a>	TSOP6F,2.9×2.8	100	±20	3.5	-	-	92	69	430	1.1	1.5	-	-	<a href="#">Buy Online</a>
<a href="#">SSM6K819R</a>	TSOP6F,2.9×2.8	100	±20	10	-	-	36.4	25.8	1110	4.3	3	-	-	<a href="#">Buy Online</a>
<a href="#">SSM6N813R</a>	TSOP6F,2.9×2.8	100	±20	3.5	-	-	154	112	242	1.8	0.9	-	-	<a href="#">Buy Online</a>
<a href="#">SSM6L820R</a>	TSOP6F,2.9×2.8	30	+12/-8	4	82	53	39.1	-	310	0.5	0.7	-	-	<a href="#">Buy Online</a>
		-20	-12/+6	-4	157	76	56	45	480	0.95	1.5	-	-	

## [P-Channel LV-MOSFETs (Small Signal)] (Automotive)

Part number	Package	VDSS (V)	VGSS (V)	ID (A)	RON max (mΩ)				Ciss (pF) Typ	Qgs (nC) Typ	Qgd (nC) Typ	Qoss (nC) Typ	Qrr (nC) Typ	Purchase
					1.8V	2.5V	4.5V	10V						
<a href="#">SSM3J66MFV</a>	VESEM,1.2×1.2	-20	-8/6	-0.8	660	480	390	-	100	0.2	0.4	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J145TU</a>	UFM,2.0×2.1	-20	-8/6	-3	180	132	103	-	270	0.4	0.9	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J144TU</a>	UFM,2.0×2.1	-20	-8/6	-3.2	168	123	93	-	290	0.4	1	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J140TU</a>	UFM,2.0×2.1	-20	-8/6	-4.4	41.1	31	25.8	-	1800	1	6.8	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J143TU</a>	UFM,2.0×2.1	-20	-8/6	-5.5	56	39.7	29.8	-	840	1.4	3	-	-	<a href="#">Buy Online</a>
<a href="#">SSM6J422TU</a>	UF6,2.0×2.1	-20	-8/6	-4	67.8	51.4	42.7	-	840	1.4	3	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J377R</a>	SOT-23F,2.9×2.4	-20	-8/6	-3.9	168	123	93	-	290	3.4	1.2	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J371R</a>	SOT-23F,2.9×2.4	-20	-8/6	-4	100	75	55	-	630	0.7	3.0	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J378R</a>	SOT-23F,2.9×2.4	-20	-8/6	-6	56	39.7	29.8	-	840	1.4	3	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J374R</a>	SOT-23F,2.9×2.4	-30	-20/+10	-4	-	-	105	71	280	0.8	1.2	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J372R</a>	SOT-23F,2.9×2.4	-30	-12/+6	-6	144	72	50	42	560	1.1	2.2	-	-	<a href="#">Buy Online</a>
<a href="#">XSM6J372NW</a>	DFN2020B(WF),2.0×2.0	-30	-12/+6	-6	144	72	50	42	560	1.1	2.2	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J351R</a>	SOT-23F,2.9×2.4	-60	-20/+10	-3.5	-	-	164	134	660	0.6	3	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J356R</a>	SOT-23F,2.9×2.4	-60	-20/+10	-2	-	-	360	300	330	0.8	1.7	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J375F</a>	S-Mini,2.9×2.5	-20	-8/6	-4	231	179	150	-	270	0.4	0.9	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J168F</a>	S-Mini,2.9×2.5	-60	-20/+10	-0.4	-	-	1900	2000	82	0.4	1.1	-	-	<a href="#">Buy Online</a>
<a href="#">SSM6J808R</a>	TSOP6F,2.9×2.8	-40	-20/+10	-7.0	-	-	48	35	1020	3	5.3	-	-	<a href="#">Buy Online</a>

## Industrial Si MOSFET selection table

### [N-Channel LV-MOSFETs] (Industrial)

Part number	Package	VDSS (V)	VGSS (V)	ID (A)	RON max (mΩ)				Ciss (pF) Typ	Qgs (nC) Typ	Qgd (nC) Typ	Qoss (nC) Typ	Qrr (nC) Typ	Purchase
					1.8V	2.5V	4.5V	10V						
<a href="#">TPH9R00CQ5</a>	SOP Advance(N), 5x6	150	±20	64	-	-	11 (8V)	9	3500	18	6.6	87	34	<a href="#">Buy Online</a>
<a href="#">TPH2R408QM</a>	SOP Advance(N), 5x6	80	±20	120	-	-	3.5 (6V)	2.43	5870	23	19	90	74	<a href="#">Buy Online</a>
<a href="#">TPH1R306PL1</a>	SOP Advance(N), 5x6	60	±20	100	-	-	2.3	1.34	6250	17.3	14.4	77.5	48	<a href="#">Buy Online</a>
<a href="#">TPHR8504PL1</a>	SOP Advance(N), 5x6	40	±20	150	-	-	1.4	0.85	7370	25	12.4	85.4	70	<a href="#">Buy Online</a>
<a href="#">TPH1R204PL1</a>	SOP Advance(N), 5x6	40	±20	150	-	-	2.1	1.24	5500	16	17	56	46	<a href="#">Buy Online</a>

### [N-Channel HV-MOSFETs] (Industrial)

Part number	Package	VDSS (V)	VGSS (V)	ID (A)	RON max (mΩ)				Ciss (pF) Typ	Qgs (nC) Typ	Qgd (nC) Typ	Qoss (nC) Typ	Qrr (nC) Typ	Purchase
					1.8V	2.5V	4.5V	10V						
<a href="#">TK040N65Z</a>	TO-247,15.94×20.95	650	±30	57	-	-	-	40	6250	32	27	-	-	<a href="#">Buy Online</a>
<a href="#">TK040Z65Z</a>	TO-247-4L,15.94×20.95	650	±30	57	-	-	-	40	6250	32	27	-	-	<a href="#">Buy Online</a>
<a href="#">TK065U65Z</a>	TOLL,9.9×11.68	650	±30	38	-	-	-	65	3650	18	17	-	-	<a href="#">Buy Online</a>
<a href="#">TK090A65Z</a>	TO-220SIS,10.0×15.0	650	±30	30	-	-	-	90	2780	15	12	-	-	<a href="#">Buy Online</a>
<a href="#">TK090E65Z</a>	TO-220,10.16×15.1	650	±30	30	-	-	-	90	2780	15	12	-	-	<a href="#">Buy Online</a>
<a href="#">TK099V65Z</a>	DFN8x8,8.0×8.0	650	±30	30	-	-	-	99	2780	15	12	-	-	<a href="#">Buy Online</a>
<a href="#">TK055U60Z1</a>	TOLL,9.9×11.68	650	±30	40	-	-	-	55	3680	20	15	-	-	<a href="#">Buy Online</a>
<a href="#">TK042N65Z5</a>	TO-247,15.94×20.95	650	±30	55	-	-	-	42	6280	40	35	-	-	<a href="#">Buy Online</a>
<a href="#">TK095N65Z5</a>	TO-247,15.94×20.95	650	±30	29	-	-	-	95	2880	15	17	-	-	<a href="#">Buy Online</a>

## [N-Channel LV-MOSFETs (Small Signal)] (Industry)

Part number	Package	VDSS (V)	VGSS (V)	ID (A)	RON max (mΩ)				Ciss (pF) Typ	Qgs (nC) Typ	Qgd (nC) Typ	Qoss (nC) Typ	Qrr (nC) Typ	Purchase
					1.8V	2.5V	4.5V	10V						
<a href="#">SSM6K818R</a>	TSOP6F,2.9×2.8	30	±20	10	-	-	36.4	25.8	1100	4.3	3.0	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K15AFU</a>	USM,2.0×2.1	30	±20	0.1	-	6000	-	-	13.5	-	-	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K376R</a>	SOT-23F,2.9×2.4	30	+12/-8	4	109	72	56	-	200	0.5	0.9	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K318R</a>	SOT-23F,2.9×2.4	60	±20	2.5	-	-	145	107	235	4.8	2.2	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K2615R</a>	SOT-23F,2.9×2.4	60	±20	2.0	-	-	-	300	150	4.6	1.4	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K7002KFU</a>	USM,2.0×2.1	60	±20	0.4	-	-	1650	1500	26	0.2	0.11	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K341R</a>	SOT-23F,2.9×2.4	60	±20	6	-	-	51	36	550	1.8	2.0	-	-	<a href="#">Buy Online</a>
<a href="#">SSM6K387R</a>	TSOP6F,2.9×2.8	100	±20	2	-	-	198	125	242	1.8	0.9	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K387R</a>	SOT-23F,2.9×2.4	100	±20	2	-	-	198	125	242	1.8	0.9	-	-	<a href="#">Buy Online</a>
<a href="#">SSM6K810R</a>	TSOP6F,2.9×2.8	100	±20	3.5	-	-	92	69	430	1.1	1.5	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3K361R</a>	SOT-23F,2.9×2.4	100	±20	3.5	-	-	92	69	430	1.1	1.5	-	-	<a href="#">Buy Online</a>
<a href="#">SSM6K819R</a>	TSOP6F,2.9×2.8	100	±20	10.0	-	-	36.4	25.8	1110	4.3	3.0	-	-	<a href="#">Buy Online</a>

## [P-Channel LV-MOSFETs (Small Signal)] (Industry)

Part number	Package	VDSS (V)	VGSS (V)	ID (A)	RON max (mΩ)				Ciss (pF) Typ	Qgs (nC) Typ	Qgd (nC) Typ	Qoss (nC) Typ	Qrr (nC) Typ	Purchase
					1.8V	2.5V	4.5V	10V						
<a href="#">SSM3J372R</a>	SOT-23F,2.9×2.4	-30	-12/+6	-6	144	72	50	42	560	1.1	2.2	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J15FU</a>	USM,2.0×2.1	-30	±20	-0.1	-	32000	-	-	9.1	-	-	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J168F</a>	S-Mini,2.9×2.5	-60	-20/+10	-0.4	-	-	1900	1550	82	0.4	1.1	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J351R</a>	SOT-23F,2.9×2.4	-60	-20/+10	-3.5	-	-	164	134	660	0.6	3	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J356R</a>	SOT-23F,2.9×2.4	-60	-20/+10	-2	-	-	360	300	330	0.8	1.7	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J378R</a>	SOT-23F,2.9×2.4	-20	-8/+6	-6	56.0	39.7	29.8	-	840	1.4	3.0	-	-	<a href="#">Buy Online</a>
<a href="#">SSM3J371R</a>	SOT-23F,2.9×2.4	-20	-8/+6	-4	100	75	55	-	630	0.7	3.0	-	-	<a href="#">Buy Online</a>



## SiC MOSFET Selection Table

Part number	Package	VDSS (V)	VGSS (V)	ID (A)	RON:VGS=18V (mΩ)				Ciss (pF) Typ	Qgs (nC) Typ	Qgd (nC) Typ	Qoss (nC) Typ	Qrr (nC) Typ	Purchase
							Typ	Max						
<a href="#">TW015N65C</a>	TO-247,15.94×20.95	650	-10~25	100	-	-	15	21	4850	50	19	337	-	<a href="#">Buy Online</a>
<a href="#">TW027N65C</a>	TO-247,15.94×20.95	650	-10~25	58	-	-	27	37	2288	26	10	165	-	<a href="#">Buy Online</a>
<a href="#">TW048N65C</a>	TO-247,15.94×20.95	650	-10~25	40	-	-	48	65	1362	17	6.2	103	-	<a href="#">Buy Online</a>
<a href="#">TW083N65C</a>	TO-247,15.94×20.95	650	-10~25	30	-	-	83	113	873	14	3.9	72	-	<a href="#">Buy Online</a>
<a href="#">TW107N65C</a>	TO-247,15.94×20.95	650	-10~25	20	-	-	107	145	600	12	2.3	51	-	<a href="#">Buy Online</a>
<a href="#">TW015Z65C</a>	TO-247-4L(X),15.94×23.45	650	-10~25	100	-	-	15	22	4850	50	19	337	-	<a href="#">Buy Online</a>
<a href="#">TW027Z65C</a>	TO-247-4L(X),,15.94×23.45	650	-10~25	58	-	-	27	38	2288	26	10	165	-	<a href="#">Buy Online</a>
<a href="#">TW048Z65C</a>	TO-247-4L(X),15.94×23.45	650	-10~25	40	-	-	48	69	1362	17	6.2	103	-	<a href="#">Buy Online</a>
<a href="#">TW083Z65C</a>	TO-247-4L(X),15.94×23.45	650	-10~25	30	-	-	83	118	873	14	3.9	72	-	<a href="#">Buy Online</a>
<a href="#">TW107Z65C</a>	TO-247-4L(X),15.94×23.45	650	-10~25	20	-	-	107	152	600	12	2.3	51	-	<a href="#">Buy Online</a>
<a href="#">TW015N120C</a>	TO-247,15.94×20.95	1200	-10~25	100	-	-	15	20	6000	56	23	397	-	<a href="#">Buy Online</a>
<a href="#">TW030N120C</a>	TO-247,15.94×20.95	1200	-10~25	60	-	-	30	40	2925	29	13	213	-	<a href="#">Buy Online</a>
<a href="#">TW045N120C</a>	TO-247,15.94×20.95	1200	-10~25	40	-	-	45	59	1969	21	8.9	147	-	<a href="#">Buy Online</a>
<a href="#">TW060N120C</a>	TO-247,15.94×20.95	1200	-10~25	36	-	-	60	78	1530	18	7.8	117	-	<a href="#">Buy Online</a>
<a href="#">TW140N120C</a>	TO-247,15.94×20.95	1200	-10~25	20	-	-	140	182	691	11	4.2	62	-	<a href="#">Buy Online</a>
<a href="#">TW015Z120C</a>	TO-247-4L(X),15.94×23.45	1200	-10~25	100	-	-	15	21	6000	56	23	397	-	<a href="#">Buy Online</a>
<a href="#">TW030Z120C</a>	TO-247-4L(X),15.94×23.45	1200	-10~25	60	-	-	30	41	2925	29	13	213	-	<a href="#">Buy Online</a>
<a href="#">TW045Z120C</a>	TO-247-4L(X),15.94×23.45	1200	-10~25	40	-	-	45	62	1969	21	8.9	147	-	<a href="#">Buy Online</a>
<a href="#">TW060Z120C</a>	TO-247-4L(X),15.94×23.45	1200	-10~25	36	-	-	60	82	1530	18	7.8	117	-	<a href="#">Buy Online</a>
<a href="#">TW140Z120C</a>	TO-247-4L(X),15.94×23.45	1200	-10~25	20	-	-	140	191	691	11	4.2	62	-	<a href="#">Buy Online</a>

S-TOGL™ is a trademark of Toshiba Device & Storage Corporation.

Other company names, product names, and service names may be trademarks of their respective companies.

### Related LINK

- [Here's an introduction to MOSFET](#) [Click](#)
- [Application notes here](#) [Click](#)
- [Common MOSFET Inquiries \(FAQ\)](#) [Click](#)
- [Online distributor purchase, inventory search page](#) [Click](#)
- [Cross reference search is shown here.](#) [Click](#)

## RESTRICTIONS ON PRODUCT USE

Toshiba Electronic Devices & Storage Corporation and its subsidiaries and affiliates are collectively referred to as "TOSHIBA".

Hardware, software and systems described in this document are collectively referred to as "Product".

- TOSHIBA reserves the right to make changes to the information in this document and related Product without notice.
- This document and any information herein may not be reproduced without prior written permission from TOSHIBA. Even with TOSHIBA's written permission, reproduction is permissible only if reproduction is without alteration/omission.
- Though TOSHIBA works continually to improve Product's quality and reliability, Product can malfunction or fail. Customers are responsible for complying with safety standards and for providing adequate designs and safeguards for their hardware, software and systems which minimize risk and avoid situations in which a malfunction or failure of Product could cause loss of human life, bodily injury or damage to property, including data loss or corruption. Before customers use the Product, create designs including the Product, or incorporate the Product into their own applications, customers must also refer to and comply with (a) the latest versions of all relevant TOSHIBA information, including without limitation, this document, the specifications, the data sheets and application notes for Product and the precautions and conditions set forth in the "TOSHIBA Semiconductor Reliability Handbook" and (b) the instructions for the application with which the Product will be used with or for. Customers are solely responsible for all aspects of their own product design or applications, including but not limited to (a) determining the appropriateness of the use of this Product in such design or applications; (b) evaluating and determining the applicability of any information contained in this document, or in charts, diagrams, programs, algorithms, sample application circuits, or any other referenced documents; and (c) validating all operating parameters for such designs and applications. TOSHIBA ASSUMES NO LIABILITY FOR CUSTOMERS' PRODUCT DESIGN OR APPLICATIONS.
- PRODUCT IS NEITHER INTENDED NOR WARRANTED FOR USE IN EQUIPMENTS OR SYSTEMS THAT REQUIRE EXTRAORDINARILY HIGH LEVELS OF QUALITY AND/OR RELIABILITY, AND/OR A MALFUNCTION OR FAILURE OF WHICH MAY CAUSE LOSS OF HUMAN LIFE, BODILY INJURY, SERIOUS PROPERTY DAMAGE AND/OR SERIOUS PUBLIC IMPACT ("UNINTENDED USE"). Except for specific applications as expressly stated in this document, Unintended Use includes, without limitation, equipment used in nuclear facilities, equipment used in the aerospace industry, lifesaving and/or life supporting medical equipment, equipment used for automobiles, trains, ships and other transportation, traffic signaling equipment, equipment used to control combustions or explosions, safety devices, elevators and escalators, and devices related to power plant. IF YOU USE PRODUCT FOR UNINTENDED USE, TOSHIBA ASSUMES NO LIABILITY FOR PRODUCT. For details, please contact your TOSHIBA sales representative or contact us via our website.
- Do not disassemble, analyze, reverse-engineer, alter, modify, translate or copy Product, whether in whole or in part.
- Product shall not be used for or incorporated into any products or systems whose manufacture, use, or sale is prohibited under any applicable laws or regulations.
- The information contained herein is presented only as guidance for Product use. No responsibility is assumed by TOSHIBA for any infringement of patents or any other intellectual property rights of third parties that may result from the use of Product. No license to any intellectual property right is granted by this document, whether express or implied, by estoppel or otherwise.
- ABSENT A WRITTEN SIGNED AGREEMENT, EXCEPT AS PROVIDED IN THE RELEVANT TERMS AND CONDITIONS OF SALE FOR PRODUCT, AND TO THE MAXIMUM EXTENT ALLOWABLE BY LAW, TOSHIBA (1) ASSUMES NO LIABILITY WHATSOEVER, INCLUDING WITHOUT LIMITATION, INDIRECT, CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES OR LOSS, INCLUDING WITHOUT LIMITATION, LOSS OF PROFITS, LOSS OF OPPORTUNITIES, BUSINESS INTERRUPTION AND LOSS OF DATA, AND (2) DISCLAIMS ANY AND ALL EXPRESS OR IMPLIED WARRANTIES AND CONDITIONS RELATED TO SALE, USE OF PRODUCT, OR INFORMATION, INCLUDING WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ACCURACY OF INFORMATION, OR NONINFRINGEMENT.
- Do not use or otherwise make available Product or related software or technology for any military purposes, including without limitation, for the design, development, use, stockpiling or manufacturing of nuclear, chemical, or biological weapons or missile technology products (mass destruction weapons). Product and related software and technology may be controlled under the applicable export laws and regulations including, without limitation, the Japanese Foreign Exchange and Foreign Trade Law and the U.S. Export Administration Regulations. Export and re-export of Product or related software or technology are strictly prohibited except in compliance with all applicable export laws and regulations.
- Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. Please use Product in compliance with all applicable laws and regulations that regulate the inclusion or use of controlled substances, including without limitation, the EU RoHS Directive. TOSHIBA ASSUMES NO LIABILITY FOR DAMAGES OR LOSSES OCCURRING AS A RESULT OF NONCOMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

**Toshiba Electronic Devices & Storage Corporation**

<https://toshiba.semicon-storage.com/>