



# 2SJ635 — P-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.
- DC / DC Converter.

### Specifications

#### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-60	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		-12	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-48	A
Allowable Power Dissipation	P <sub>D</sub>		1	W
		T <sub>c</sub> =25°C	30	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

#### Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> =-1mA, V <sub>GS</sub> =0V	-60			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-60V, V <sub>GS</sub> =0V			-1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±16V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-1mA	-1.2		-2.6	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-6A	9	13		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =-6A, V <sub>GS</sub> =-10V		45	60	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =-6A, V <sub>GS</sub> =-4V		65	92	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-20V, f=1MHz		2200		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =-20V, f=1MHz		235		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =-20V, f=1MHz		165		pF

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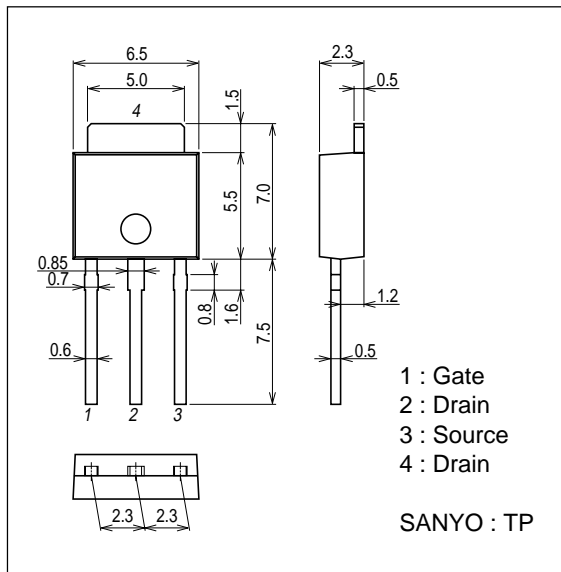
# 2SJ635

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		18		ns
Rise Time	$t_r$	See specified Test Circuit.		80		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		200		ns
Fall Time	$t_f$	See specified Test Circuit.		125		ns
Total Gate Charge	$Q_g$	$V_{DS}=-30V, V_{GS}=-10V, I_D=-12A$		45		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=-30V, V_{GS}=-10V, I_D=-12A$		10		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=-30V, V_{GS}=-10V, I_D=-12A$		7		nC
Diode Forward Voltage	$V_{SD}$	$I_S=-12A, V_{GS}=0V$		-0.9	-1.2	V

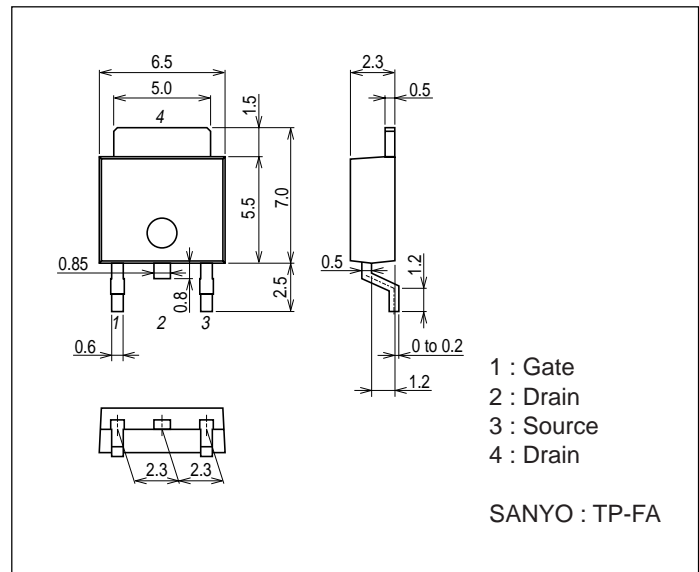
## Package Dimensions

unit : mm  
7518-004

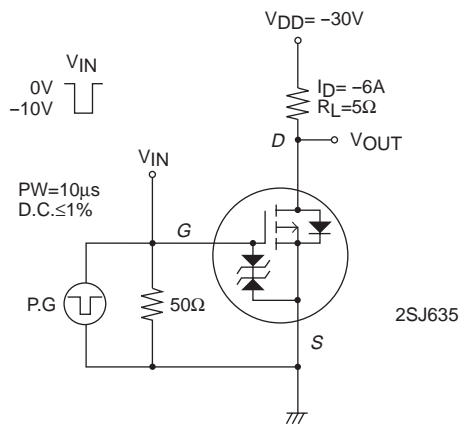


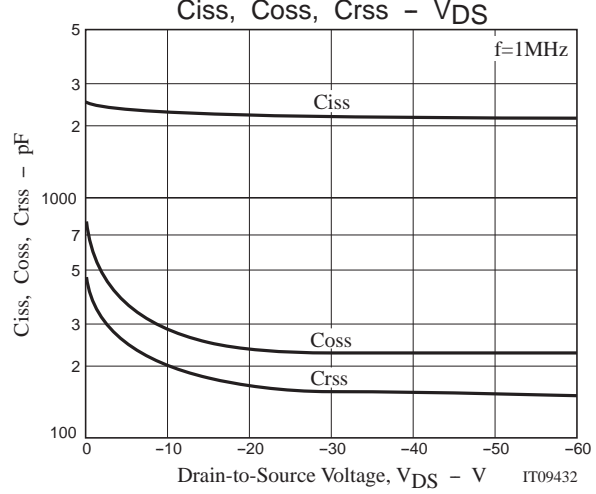
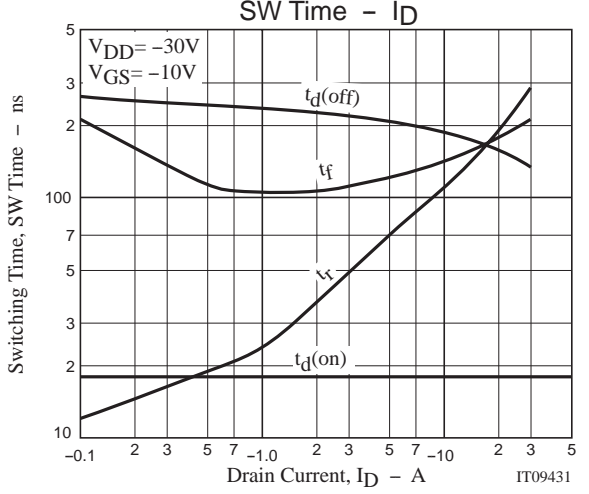
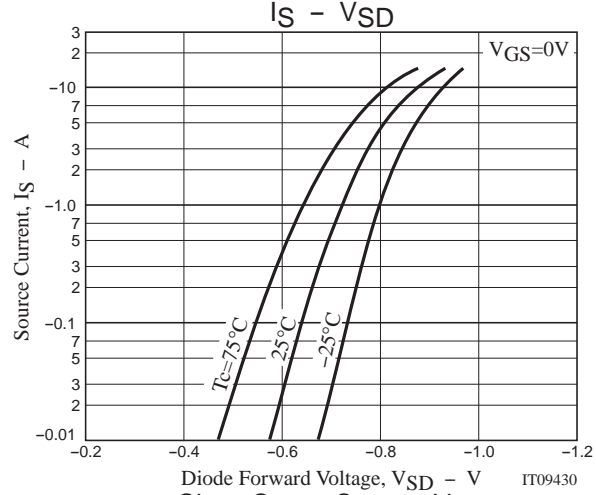
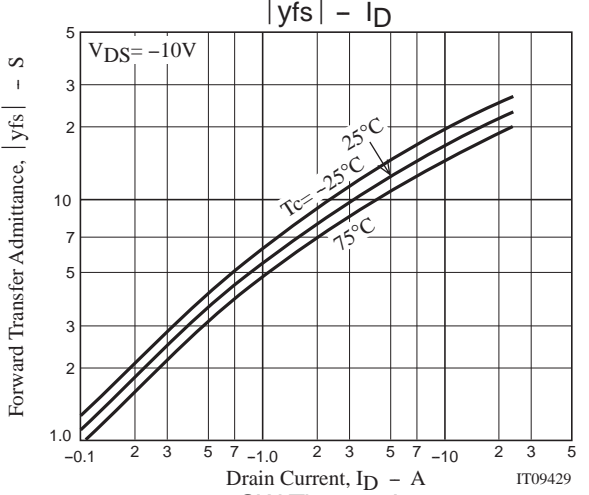
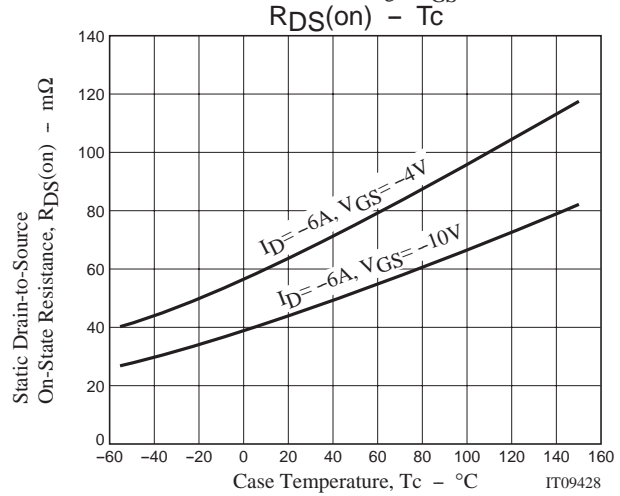
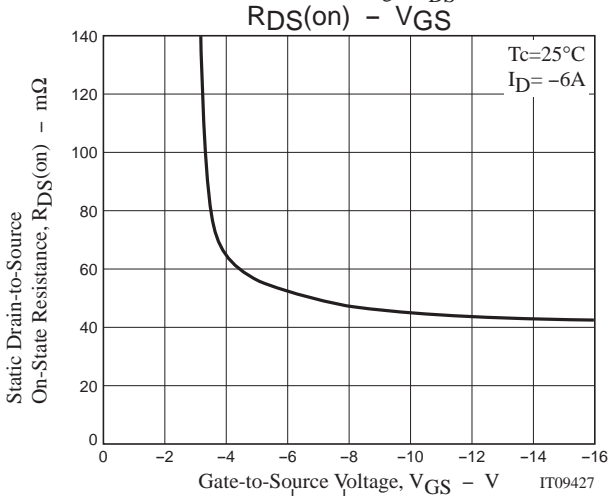
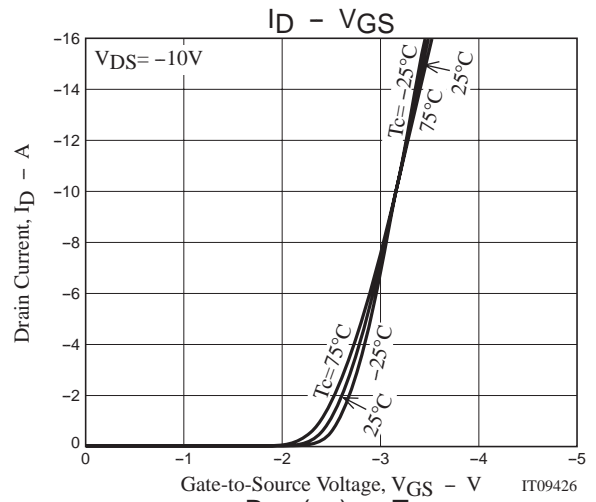
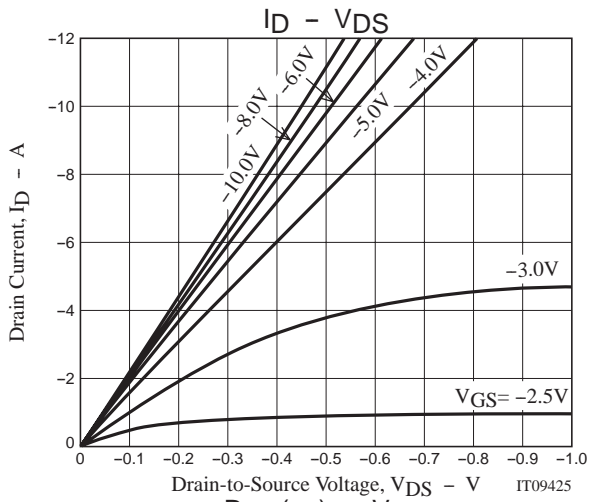
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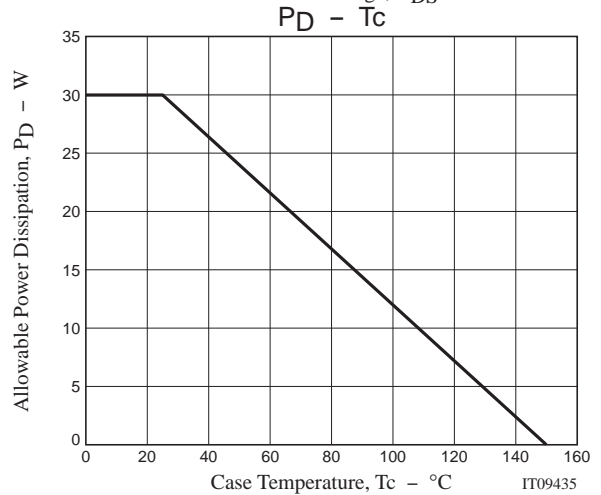
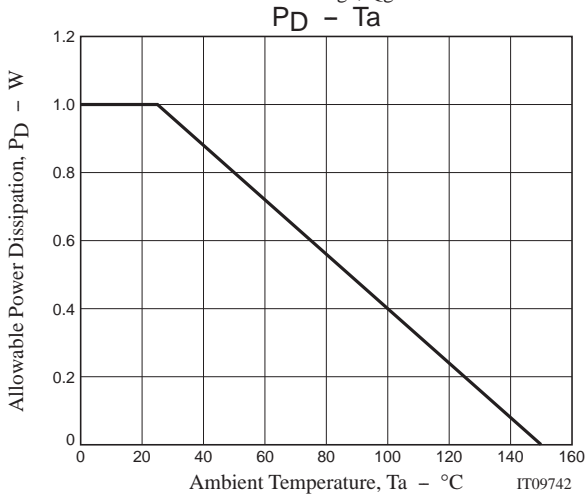
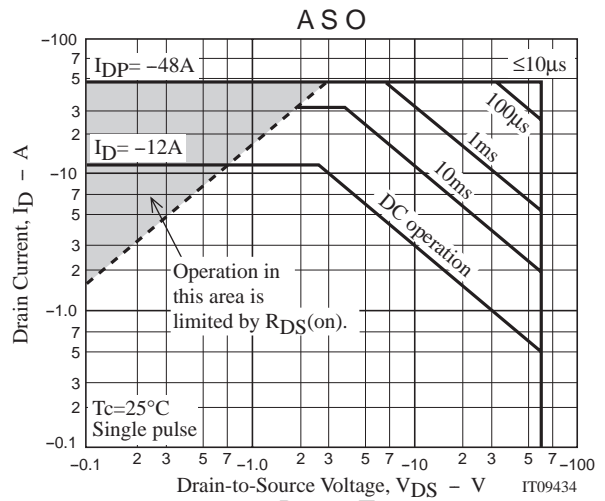
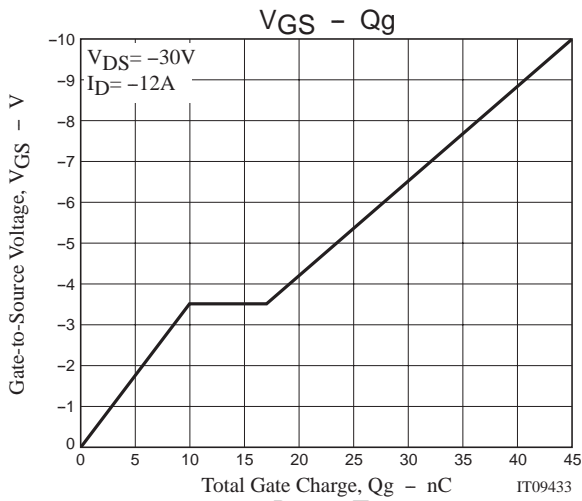
unit : mm  
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## Switching Time Test Circuit







Note on usage : Since the 2SJ635 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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