



SANYO Semiconductors

DATA SHEET

2SJ630 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.8V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-12	V
Gate-to-Source Voltage	V _{GSS}		±8	V
Drain Current (DC)	I _D		-6	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-24	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (600mm²×0.8mm)	1.5	W
		Tc=25°C	3.5	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0V	-12			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _D =-12V, V _{GS} =0V			-10	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±6.4V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-6V, I _D =-1mA	-0.3		-1.0	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-6V, I _D =-3A	5.7	9.5		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-3A, V _{GS} =-4.5V		45	58	mΩ
	R _{DS(on)2}	I _D =-1.5A, V _{GS} =-2.5V		57	80	mΩ
	R _{DS(on)3}	I _D =-0.3A, V _{GS} =-1.8V		78	112	mΩ
Input Capacitance	C _{iss}	V _{DS} =-6V, f=1MHz		940		pF
Output Capacitance	C _{oss}	V _{DS} =-6V, f=1MHz		230		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-6V, f=1MHz		180		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		12		ns
Rise Time	t _r	See specified Test Circuit.		143		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		71		ns
Fall Time	t _f	See specified Test Circuit.		89		ns

Marking : MD

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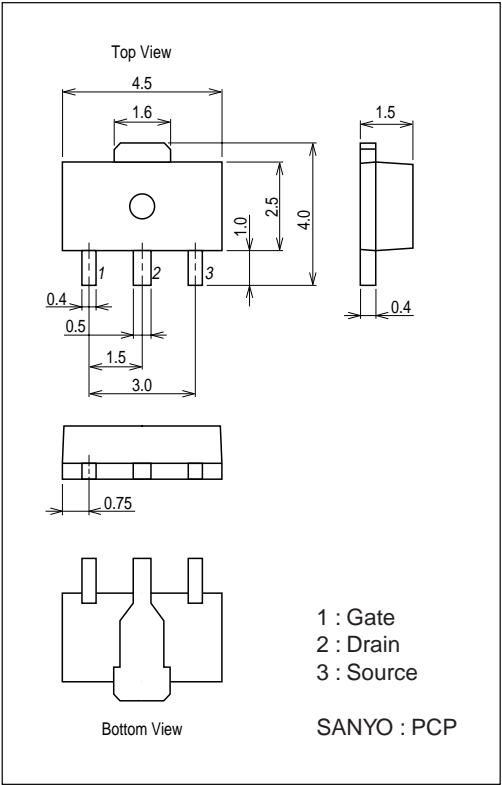
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-6A$		11		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-6A$		1.6		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-6A$		2.8		nC
Diode Forward Voltage	VSD	$I_S=-6A, V_{GS}=0V$		-0.95	-1.5	V

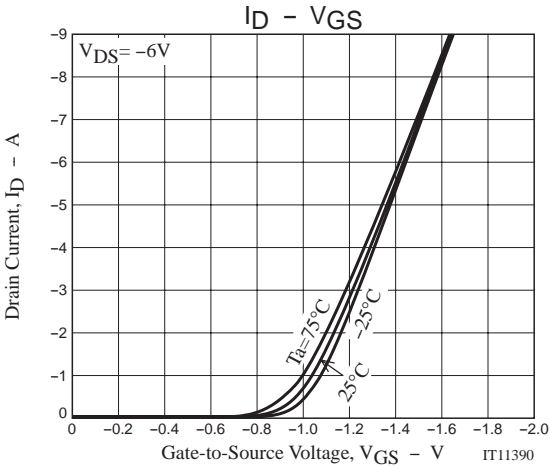
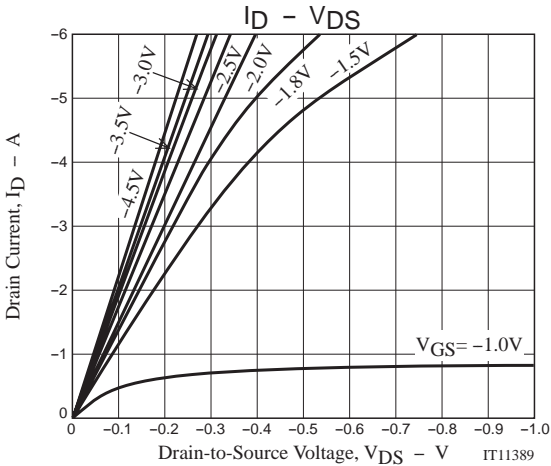
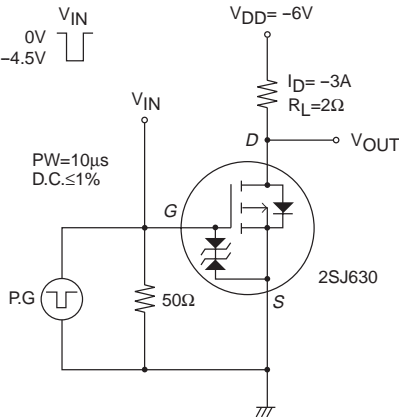
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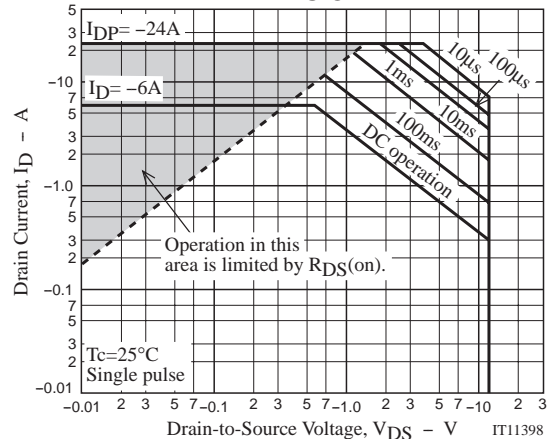
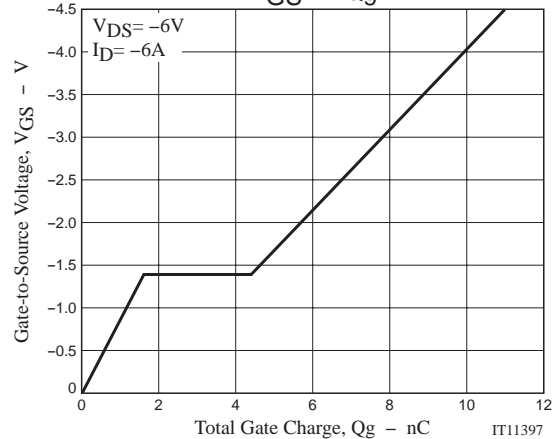
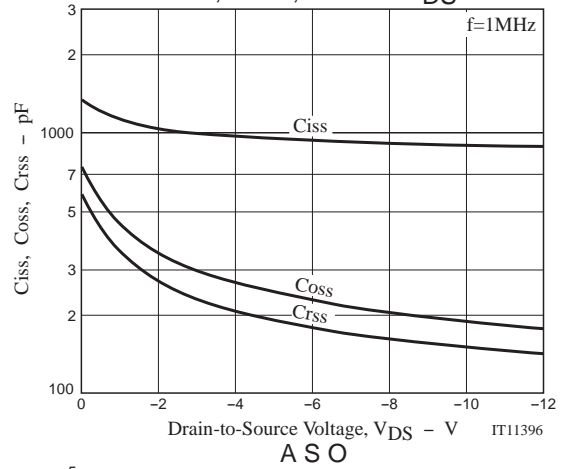
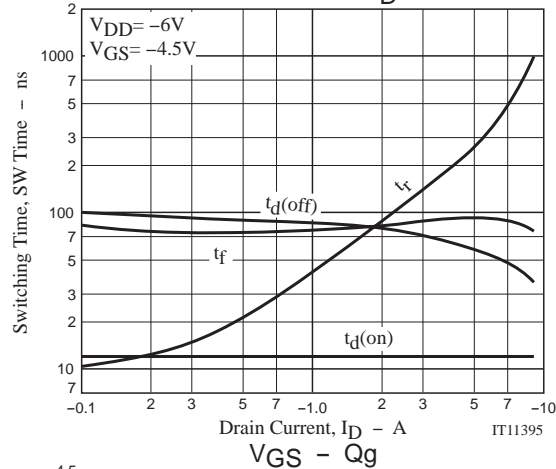
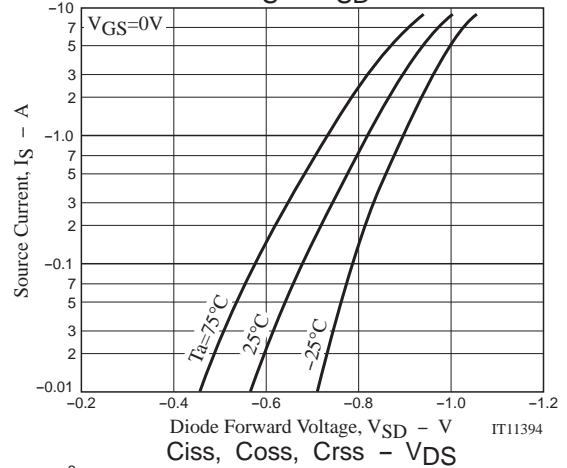
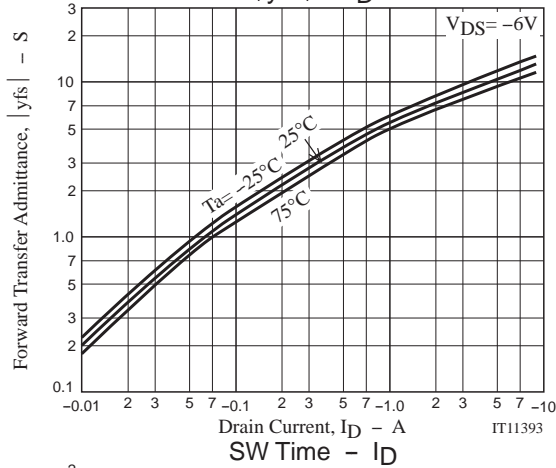
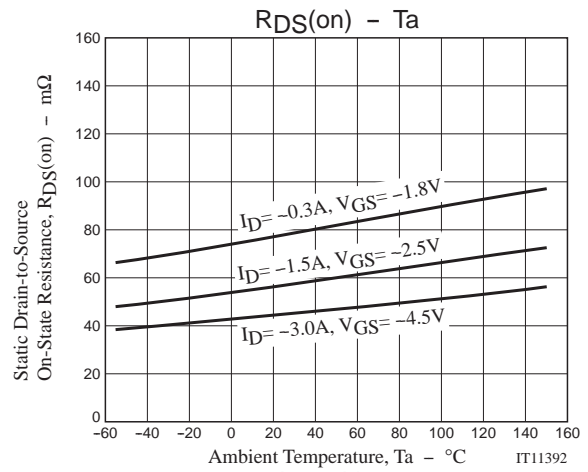
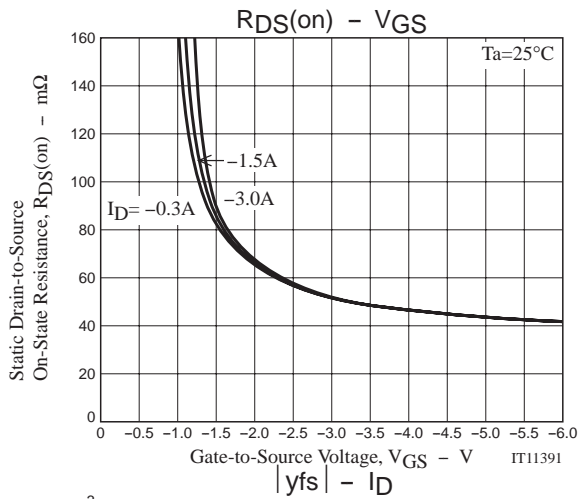
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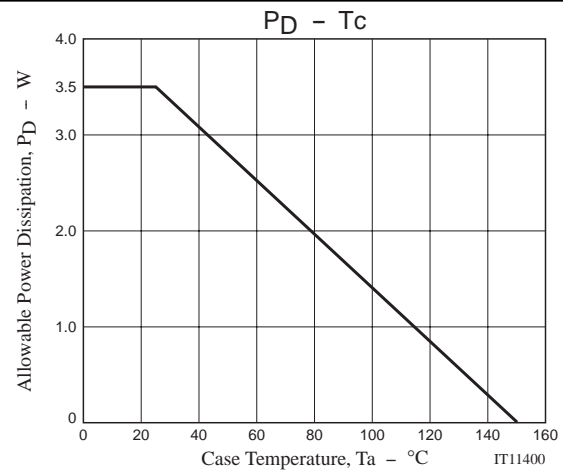
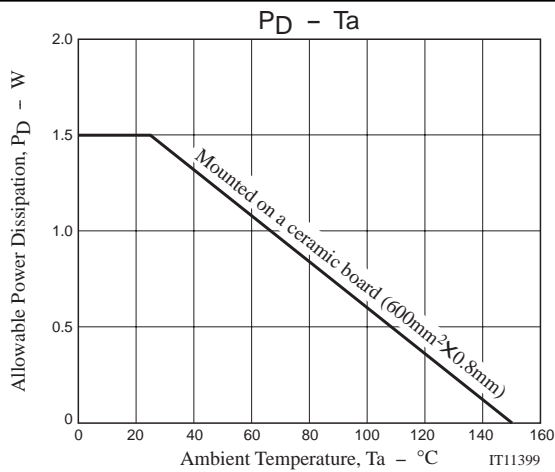
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Switching Time Test Circuit







Note on usage : Since the 2SJ630 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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