



SANYO Semiconductors

DATA SHEET

SFT1302 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Motor drive application.
- Low ON-resistance.
- 4V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-35	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-11	A
Drain Current (PW≤10μs)	I _{DP}	PW≤10μs, duty cycle≤1%	-44	A
Allowable Power Dissipation	P _D		1.0	W
		Tc=25°C	15	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	-35			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-35V, V _{GS} =0V			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-1.2		-2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-5.5A	5.2	8.7		S

Marking : T1302

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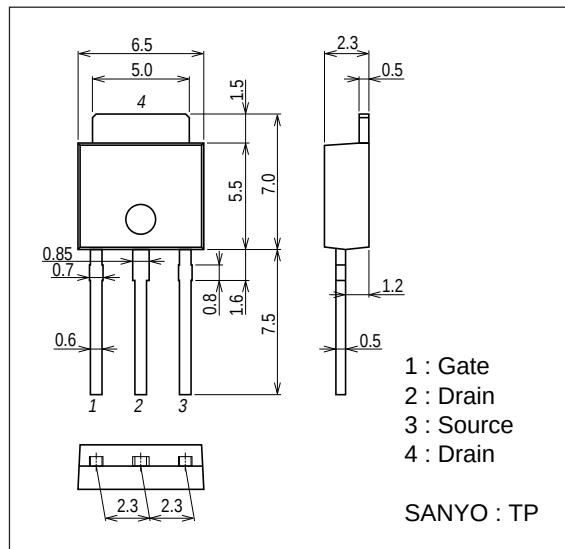
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -5.5A, V_{GS} = -10V$		39	51	$m\Omega$
	$R_{DS(on)2}$	$I_D = -5.5A, V_{GS} = -4.5V$		55	77	$m\Omega$
	$R_{DS(on)3}$	$I_D = -5.5A, V_{GS} = -4V$		65	91	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS} = -20V, f = 1MHz$		1240		pF
Output Capacitance	C_{oss}	$V_{DS} = -20V, f = 1MHz$		185		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -20V, f = 1MHz$		140		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		14		ns
Rise Time	t_r	See specified Test Circuit.		100		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		95		ns
Fall Time	t_f	See specified Test Circuit.		75		ns
Total Gate Charge	Q_g	$V_{DS} = -17V, V_{GS} = -10V, I_D = -11A$		24		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS} = -17V, V_{GS} = -10V, I_D = -11A$		3.5		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS} = -17V, V_{GS} = -10V, I_D = -11A$		5.2		nC
Diode Forward Voltage	V_{SD}	$I_S = -11A, V_{GS} = 0V$		-0.95	-1.5	V

Package Dimensions

unit : mm (typ)

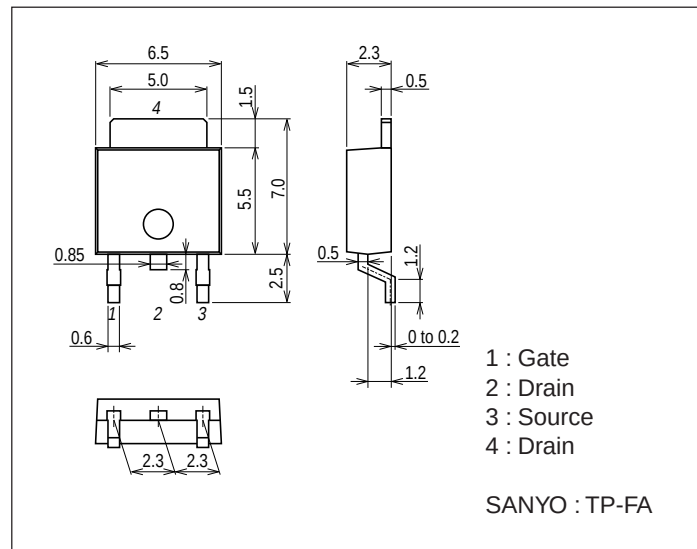
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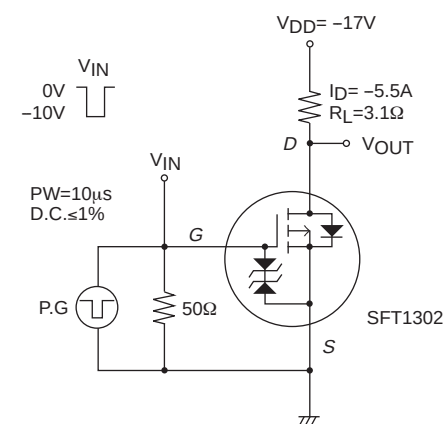
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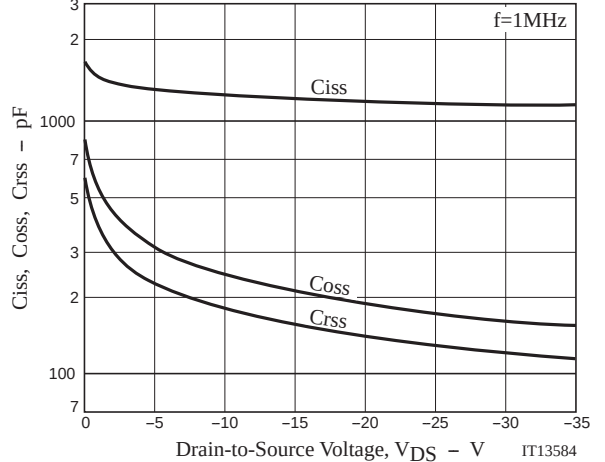
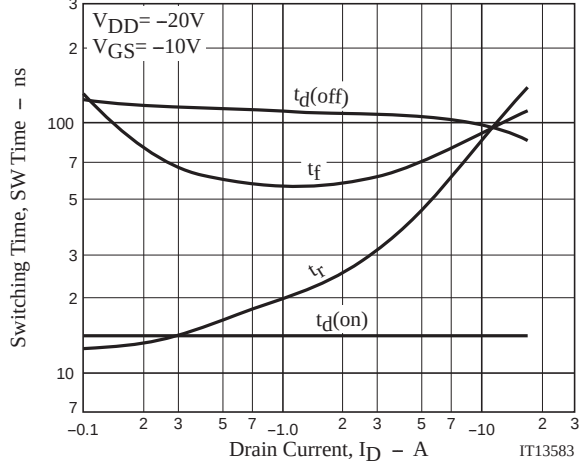
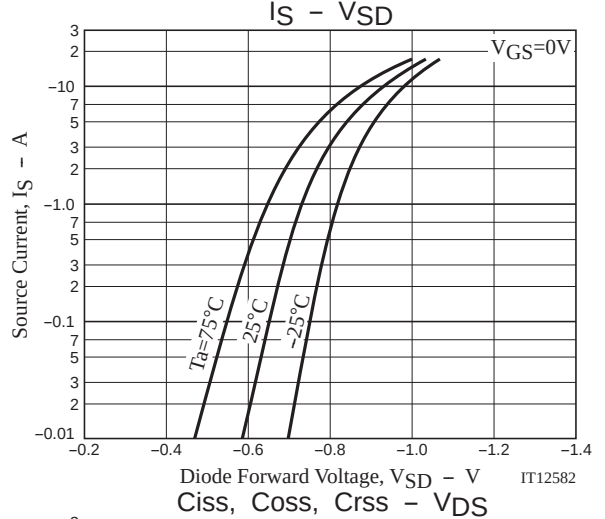
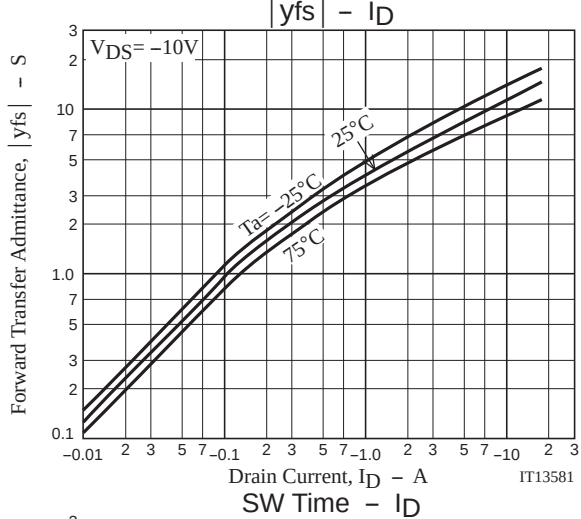
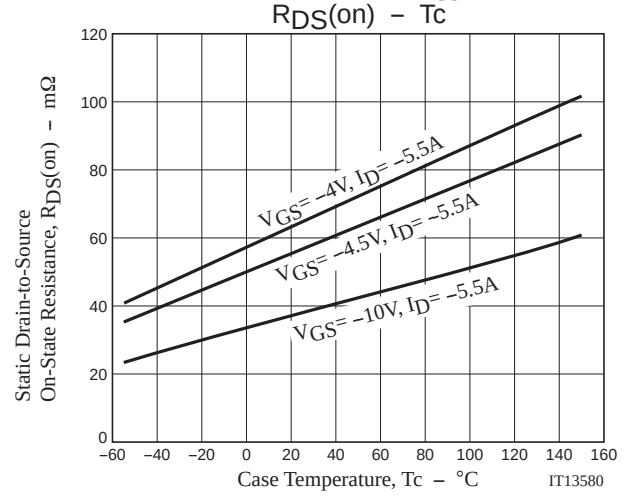
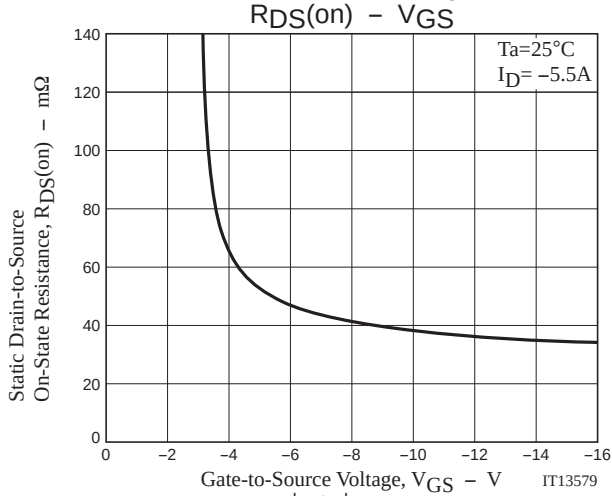
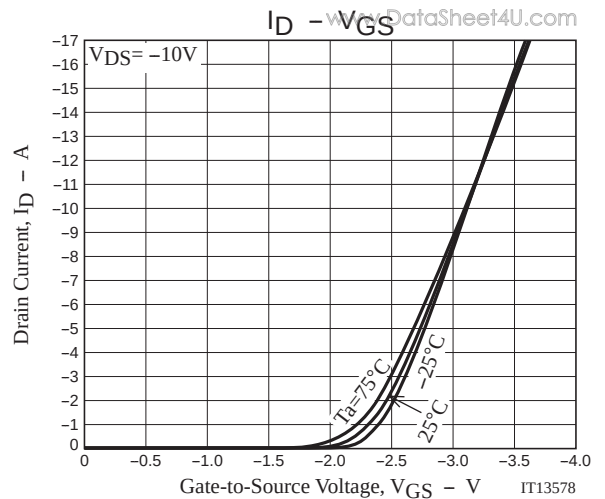
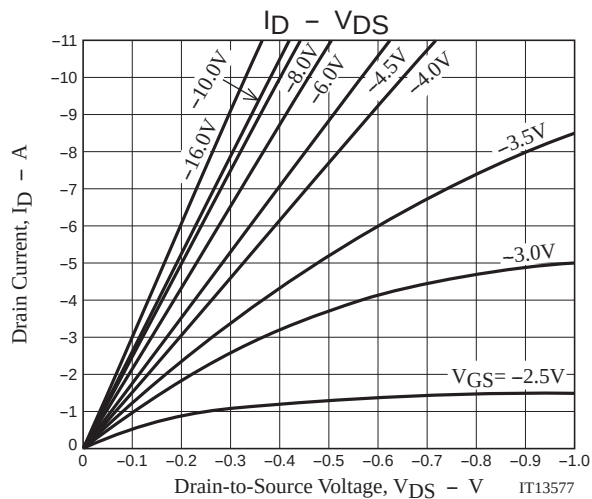
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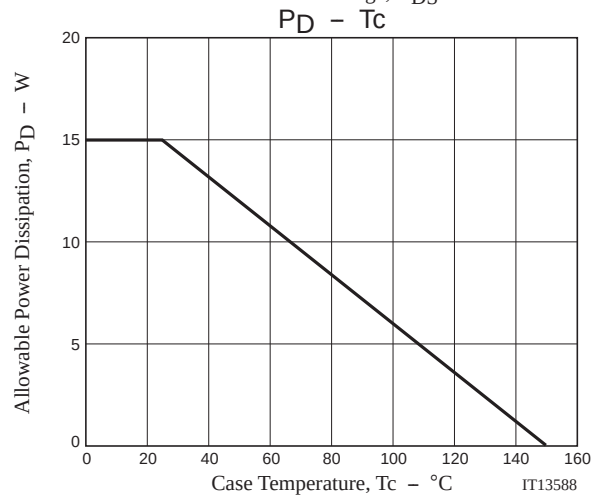
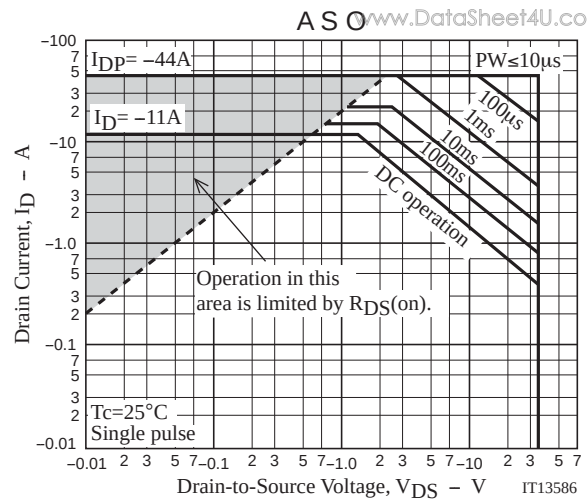
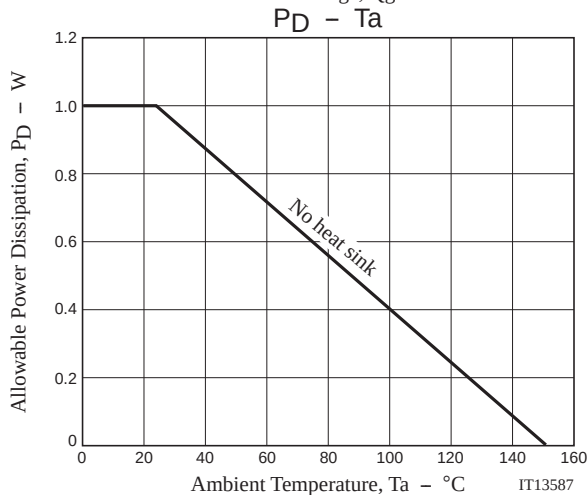
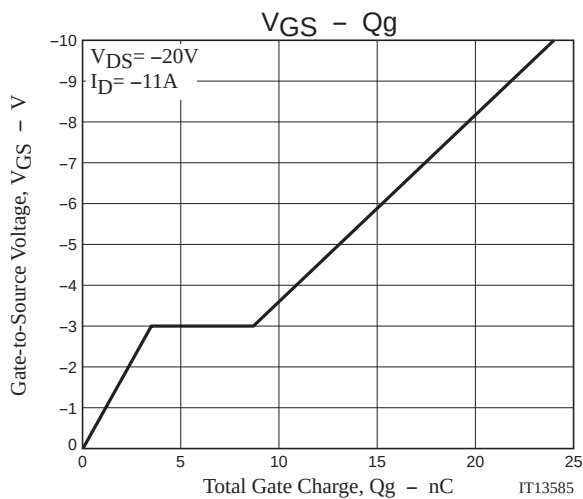
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Switching Time Test Circuit







Note on usage : Since the SFT1302 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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