



SANYO Semiconductors

## DATA SHEET

N-Channel Silicon MOSFET

# SFT1427 — General-Purpose Switching Device Applications

## Features

- Low ON-resistance.
- 4V drive.

## Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		80	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		7	A
Drain Current (PW≤10μs)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	28	A
Allowable Power Dissipation	P <sub>D</sub>		1.0	W
		T <sub>c</sub> =25°C	15	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(BR)DSS	I <sub>D</sub> =1mA, V <sub>GS</sub> =0V	80			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =80V, 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> =3.5A	3.3	5.5		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =3.5A, V <sub>GS</sub> =10V		51	66	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =3.5A, V <sub>GS</sub> =4.5V		62	87	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =3.5A, V <sub>GS</sub> =4V		67	94	mΩ

Marking : T1427

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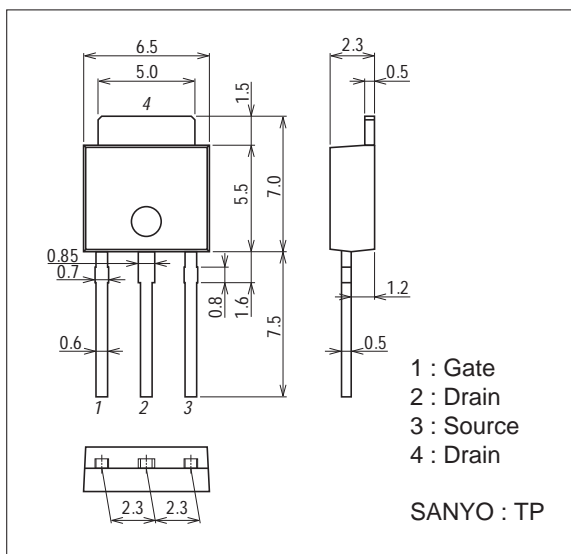
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=20V, f=1MHz$		1050		pF
Output Capacitance	Coss	$V_{DS}=20V, f=1MHz$		90		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=20V, f=1MHz$		65		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		13		ns
Rise Time	$t_r$	See specified Test Circuit.		19		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		97		ns
Fall Time	$t_f$	See specified Test Circuit.		42		ns
Total Gate Charge	Qg	$V_{DS}=40V, V_{GS}=10V, I_D=7A$		23		nC
Gate-to-Source Charge	Qgs	$V_{DS}=40V, V_{GS}=10V, I_D=7A$		3.1		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=40V, V_{GS}=10V, I_D=7A$		5.9		nC
Diode Forward Voltage	VSD	$I_S=7A, V_{GS}=0V$		0.87	1.2	V

**Package Dimensions**

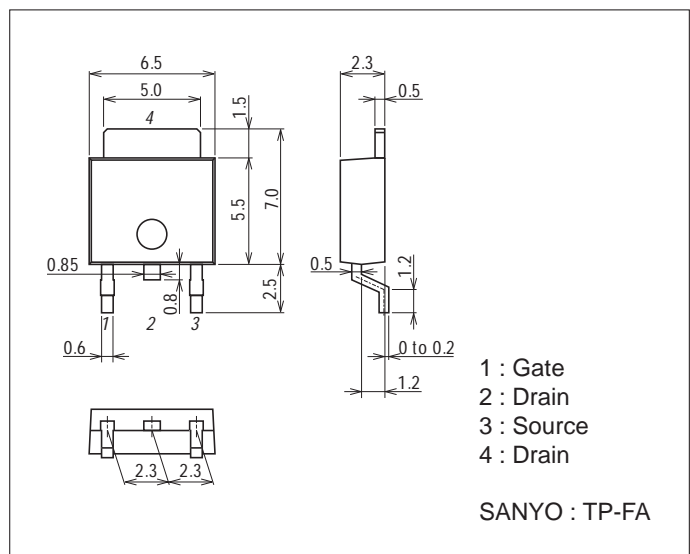
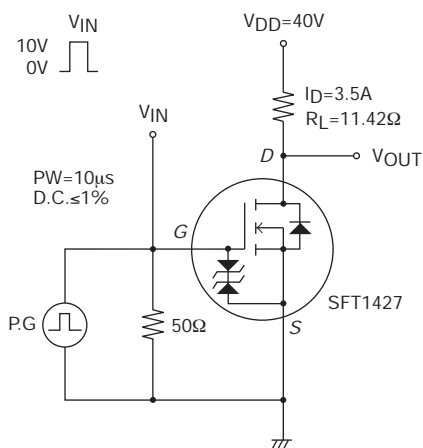
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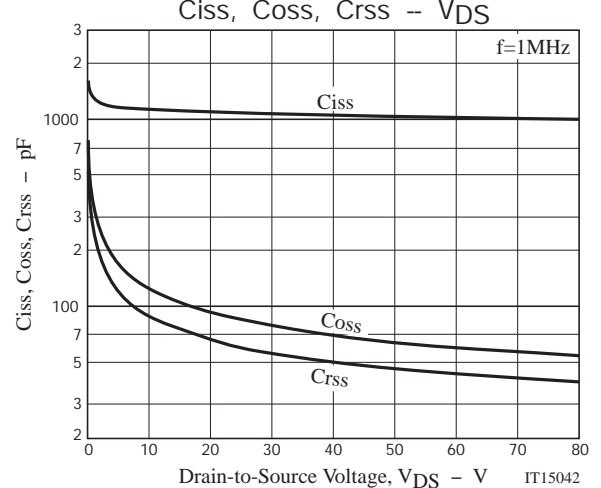
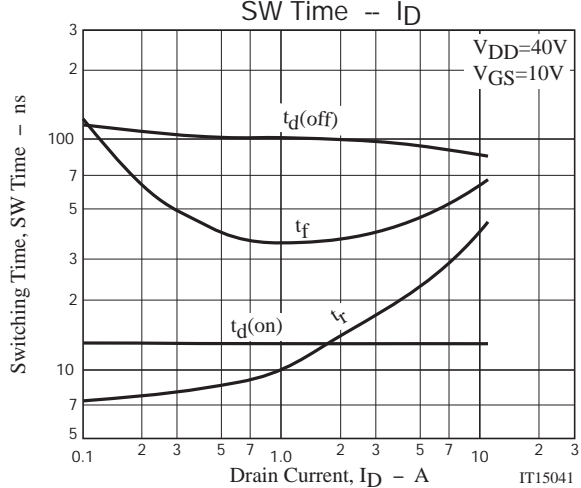
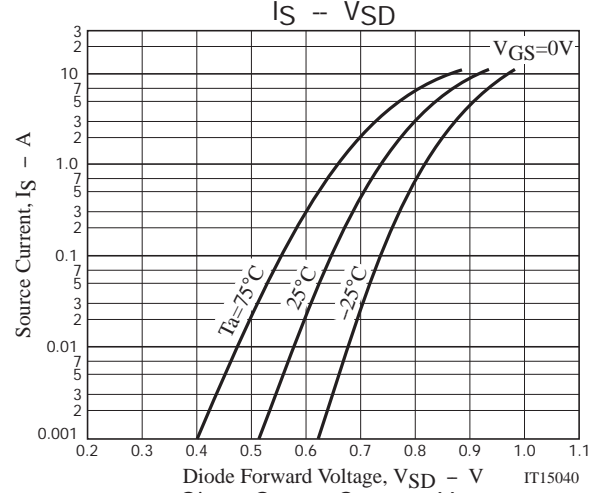
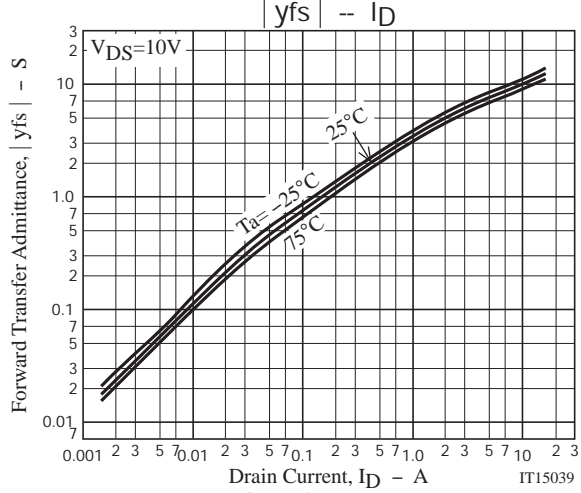
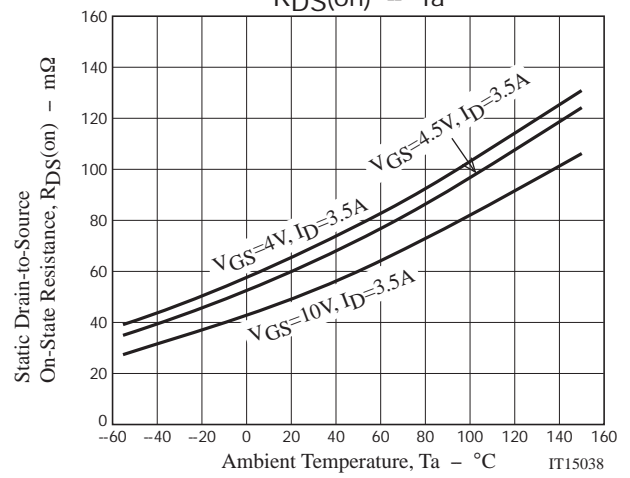
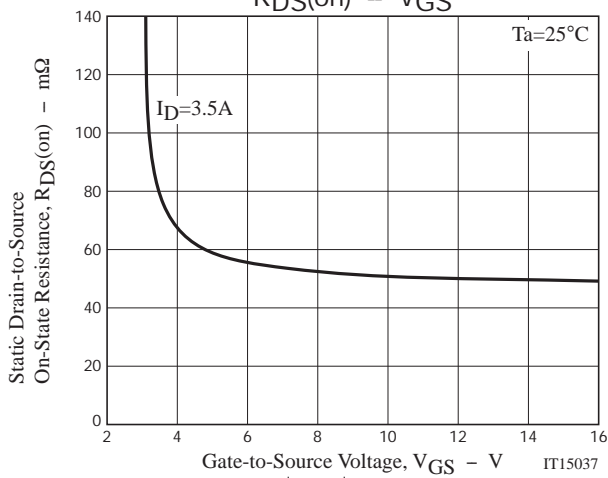
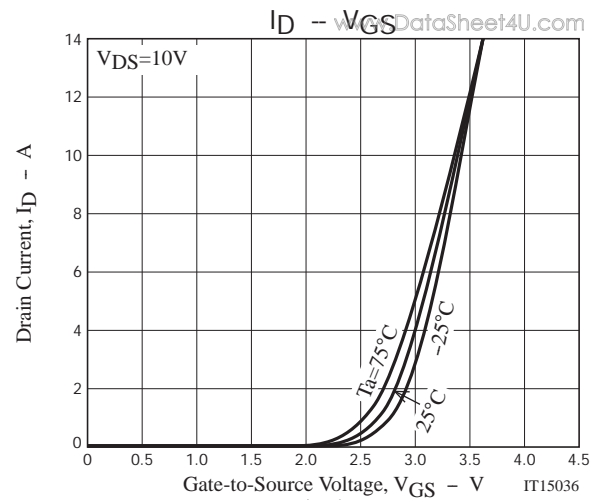
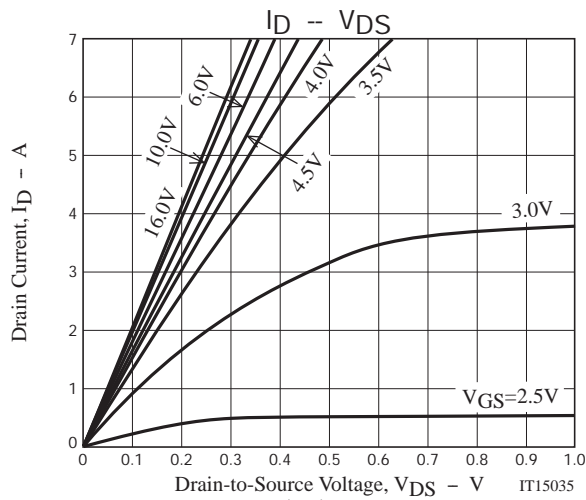
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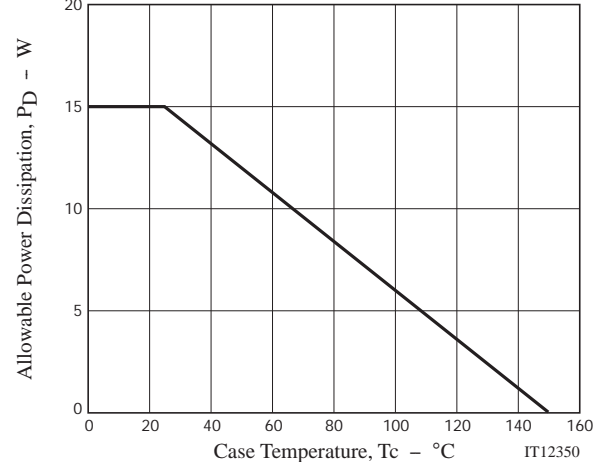
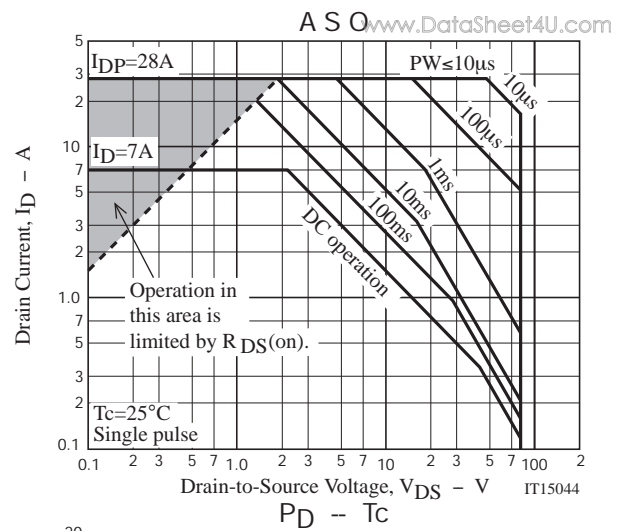
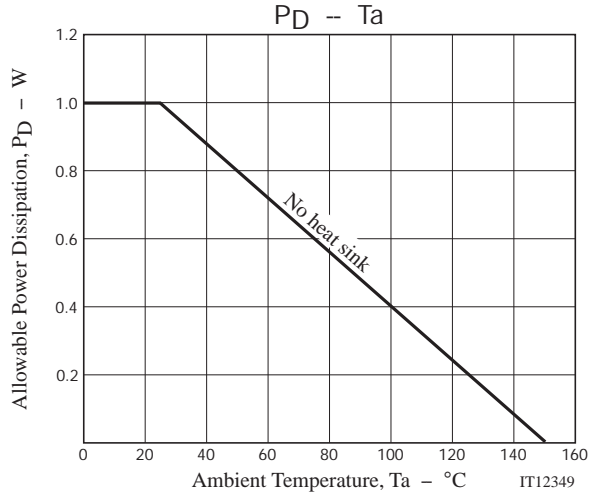
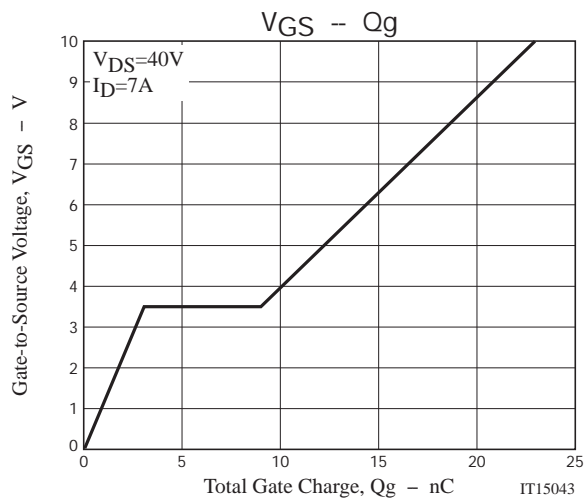
**Package Dimensions**

unit : mm (typ)

7003-004

**Switching Time Test Circuit**





Note on usage : Since the SFT1427 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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