



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

SFT1450 — General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)1}=21m\Omega$ (typ)
- 4.5V drive
- Input Capacitance $C_{iss}=715pF$ (typ)
- Halogen free compliance

Specifications

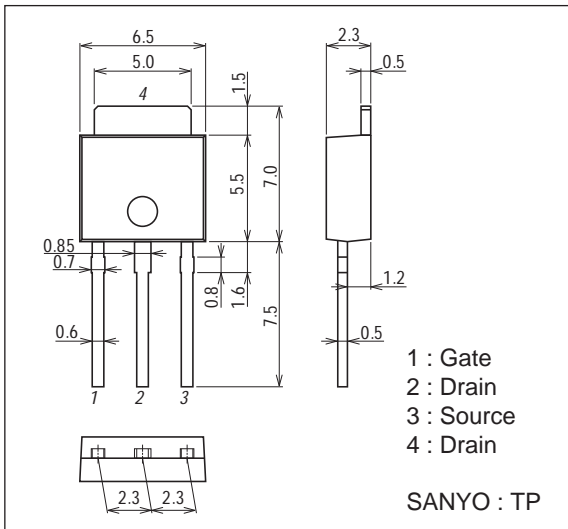
Absolute Maximum Ratings at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		40	V
Gate-to-Source Voltage	V_{GSS}		± 20	V
Drain Current (DC)	I_D		21	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	84	A
Allowable Power Dissipation	P_D		1	W
		$T_c=25^\circ C$	23	W
Channel Temperature	T_{ch}		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Package Dimensions

unit : mm (typ)

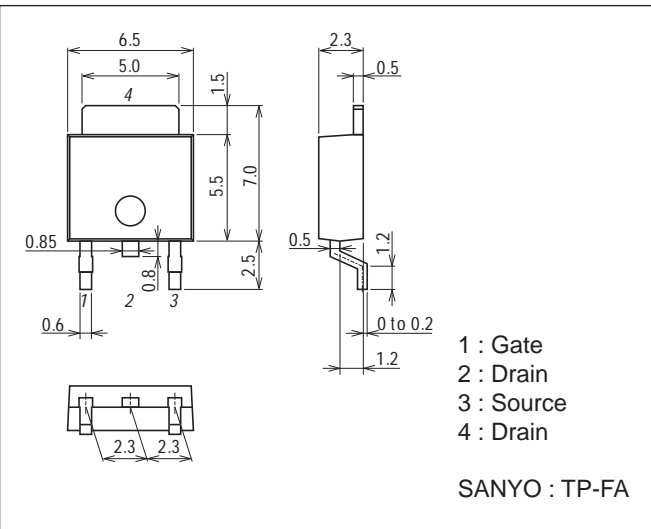
7518-004



Package Dimensions

unit : mm (typ)

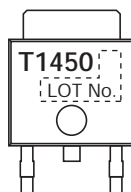
7003-004



Product & Package Information

- Package : TP
- JEITA, JEDEC : SC-64, TO-251, SOT553
- Minimum Packing Quantity : 500 pcs./bag

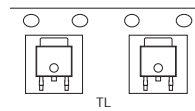
Marking(TP, TP-FA)



Product & Package Information

- Package : TP-FA
- JEITA, JEDEC : SC-63, TO-252, SOT428
- Minimum Packing Quantity : 700 pcs./reel

Taping Type(TP-FA) : TL



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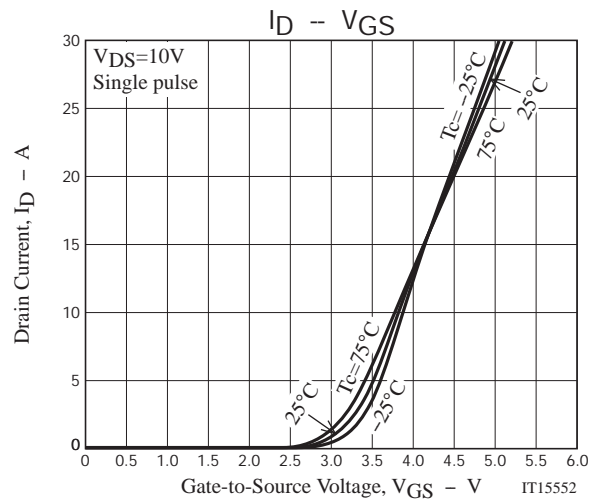
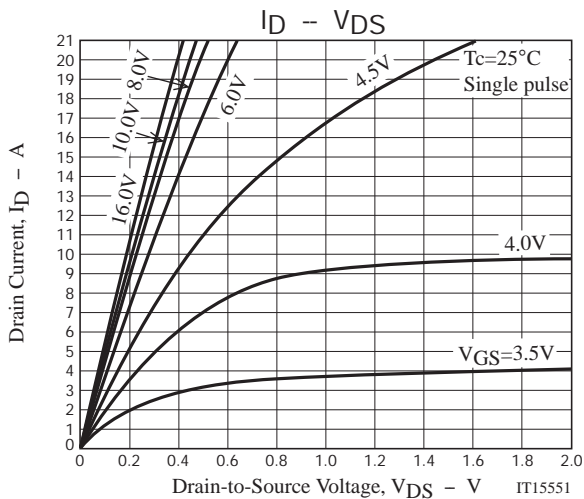
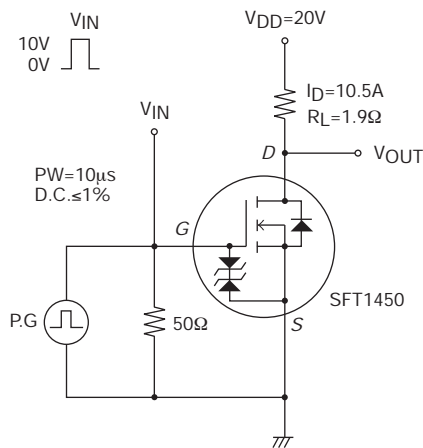
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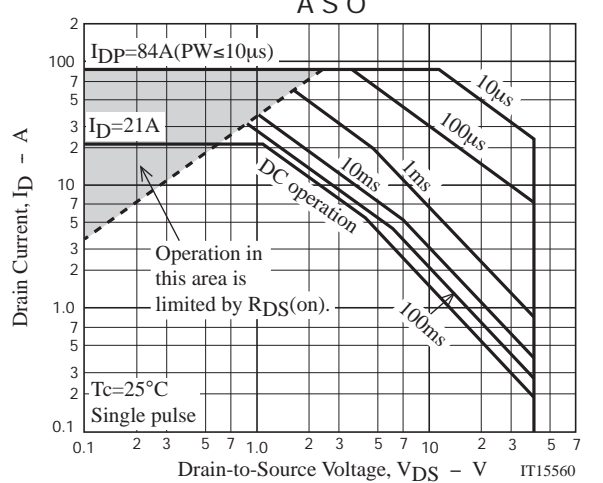
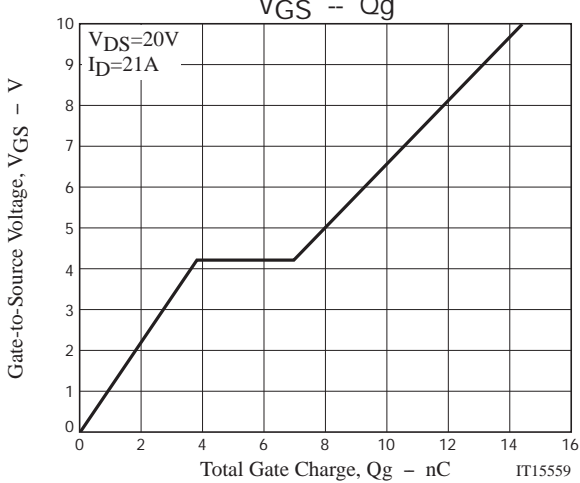
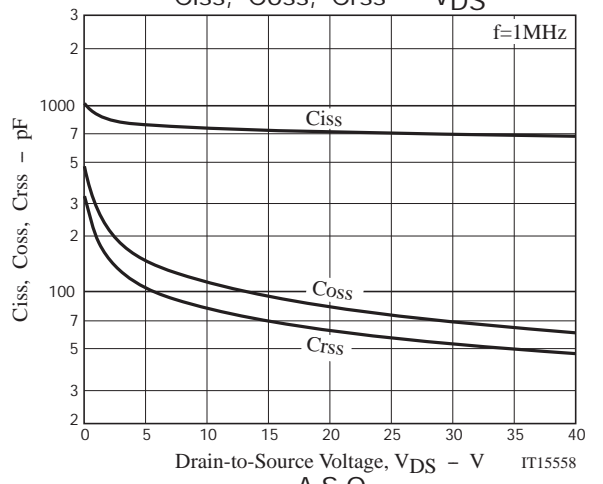
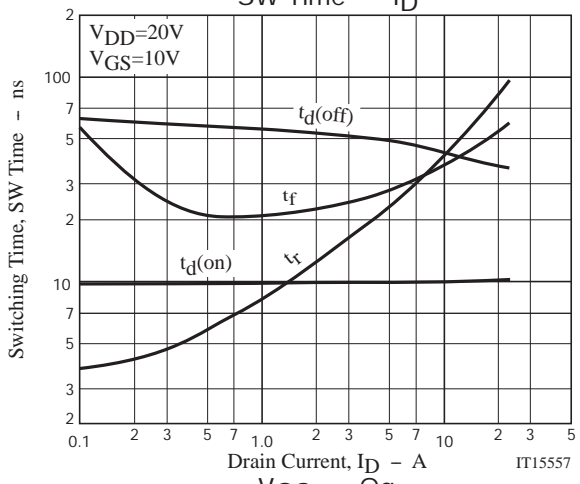
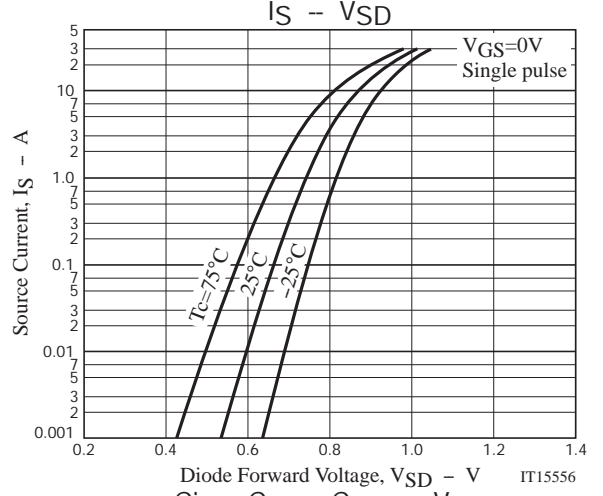
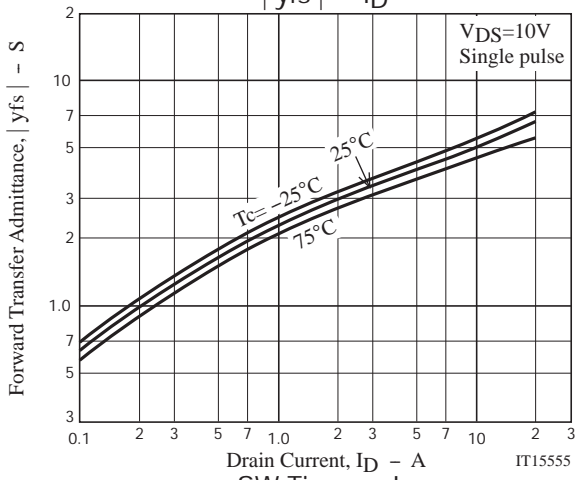
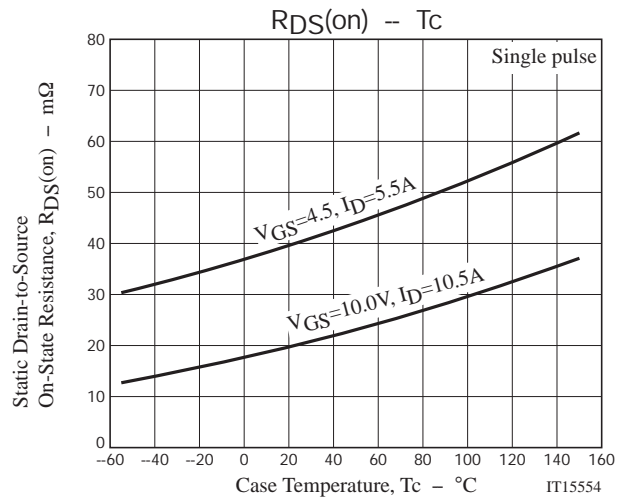
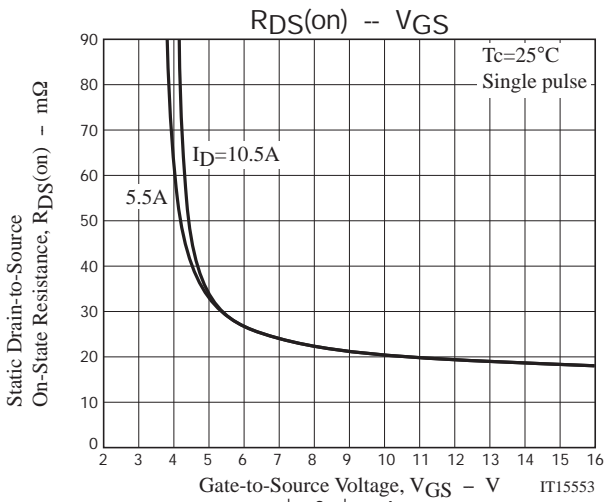
SFT1450

Electrical Characteristics at Ta=25°C

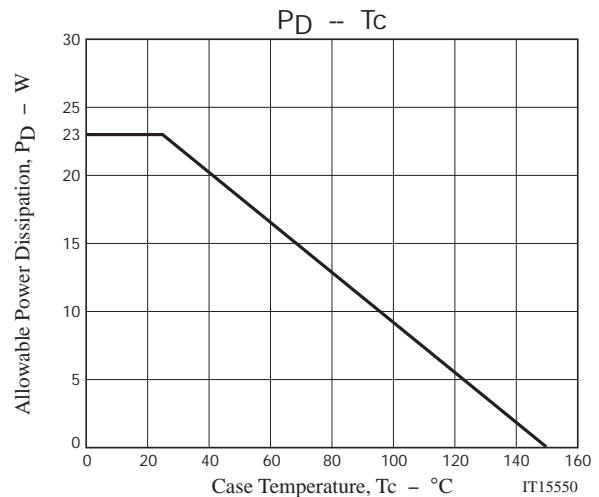
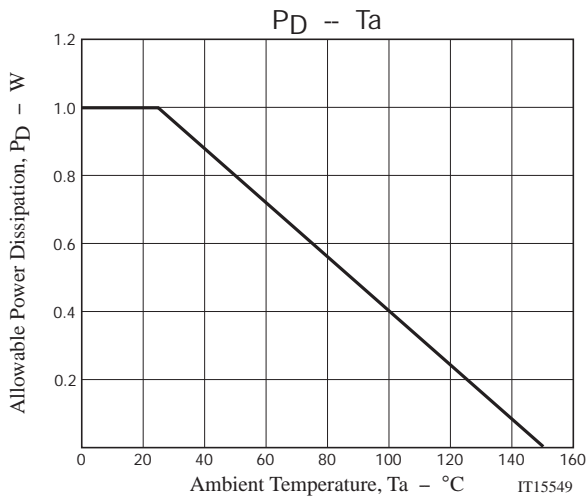
Parameter	Symbol	Conditions	Ratings			Unit
			min.	typ.	max.	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	40			V
Zero-Gate Voltage Drain Current	IDSS	VDS=40V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	1.7		2.6	V
Forward Transfer Admittance	yfs	VDS=10V, ID=10.5A		5.4		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=10.5A, VGS=10V		21	28	mΩ
	RDS(on)2	ID=5.5A, VGS=4.5V		40	56	mΩ
Input Capacitance	Ciss	VDS=20V, f=1MHz		715		pF
Output Capacitance	Coss	VDS=20V, f=1MHz		85		pF
Reverse Transfer Capacitance	Crss	VDS=20V, f=1MHz		65		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		10		ns
Rise Time	t _r	See specified Test Circuit.		42		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		42		ns
Fall Time	t _f	See specified Test Circuit.		38		ns
Total Gate Charge	Qg	VDS=20V, VGS=10V, ID=21A		14.4		nC
Gate-to-Source Charge	Qgs	VDS=20V, VGS=10V, ID=21A		3.8		nC
Gate-to-Drain "Miller" Charge	Qgd	VDS=20V, VGS=10V, ID=21A		3.1		nC
Diode Forward Voltage	VSD	IS=21A, VGS=0V		0.96	1.2	V

Switching Time Test Circuit





SFT1450



Note on usage : Since the SFT1450 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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