Ordering number : ENA1320

SANYO Semiconductors
DATA SHEET

N-Channel Silicon MOSFET

2SK2624FS — General-Purpose Switching Device Applications

Features

- Low ON-reisitance.
- Low Qg.
- Ultrahigh-speed switching.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		600	V
Gate-to-Source Voltage	V_{GSS}		±30	V
Drain Current (DC)	I_D		3.5	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	12	A
Allowable Power Dissipation	P_D		2.0	W
		Tc=25°C (SANYO's ideal heat dissipation condition)*1	25	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−55 to +150	°C
Avalanche Energy (Single Pulse) *2	E_{AS}		49	mJ
Avalanche Current *3	I_{AV}		3	A

Note :*1 SANYO's condition is radiation from backside.
The method is applying silicone grease to the backside of the device and attaching the device to water-cooled radiator made of aluminium.
*2 V_{DD}=50V, L=10mH, I_{AV}=3A
*3 L≤10mH, Single pulse
Marking : K2624

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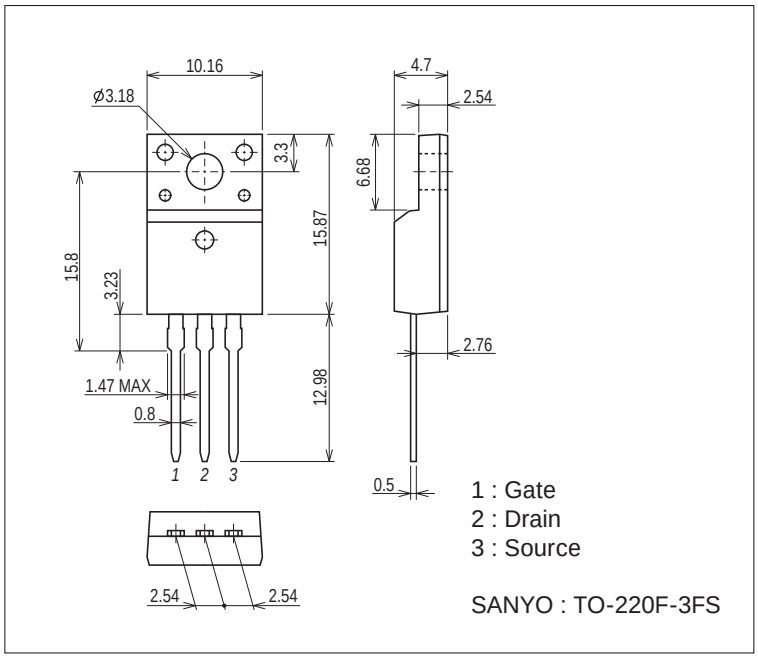
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=10mA, V_{GS}=0V	600			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=480V, V_{GS}=0V			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±30V, V_{DS}=0V			±100	nA
Cutoff Voltage	V_{GS}(off)	V_{DS}=10V, I_D=1mA	3.5		5.5	V
Forward Transfer Admittance	| yfs |	V_{DS}=10V, I_D=1.8A	1.0	2.0		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)	I_D=1.8A, V_{GS}=15V		2.0	2.6	Ω
Input Capacitance	Ciss	V_{DS}=20V, f=1MHz		550		pF
Output Capacitance	Coss	V_{DS}=20V, f=1MHz		165		pF
Reverse Transfer Capacitance	Crss	V_{DS}=20V, f=1MHz		85		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		17		ns
Rise Time	t_r	See specified Test Circuit.		17		ns
Turn-OFF Delay Time	t_d(off)	See specified Test Circuit.		40		ns
Fall Time	t_f	See specified Test Circuit.		22		ns
Total Gate Charge	Qg	V_{DS}=200V, V_{GS}=10V, I_D=3A		15		nC
Diode Forward Voltage	V_{SD}	I_S=3A, V_{GS}=0V		0.98	1.2	V

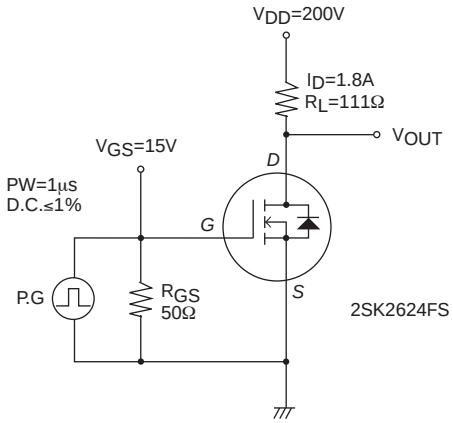
Package Dimensions

unit : mm (typ)

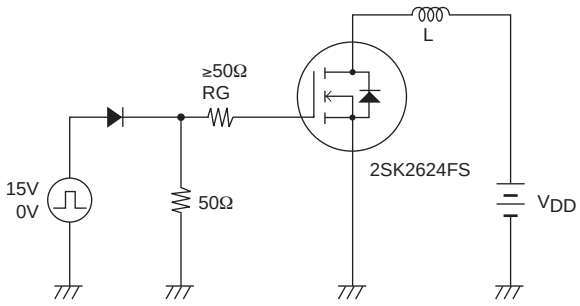
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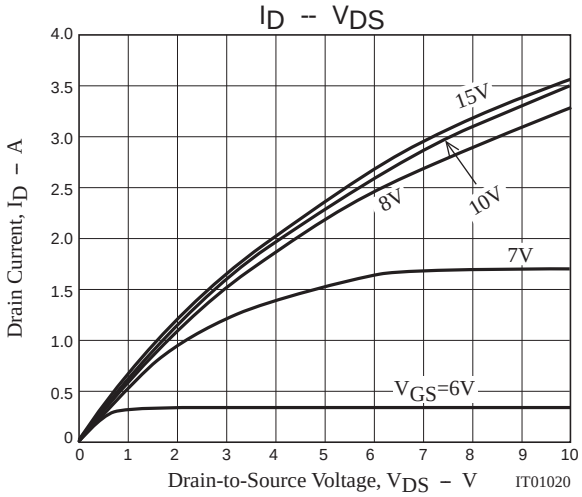


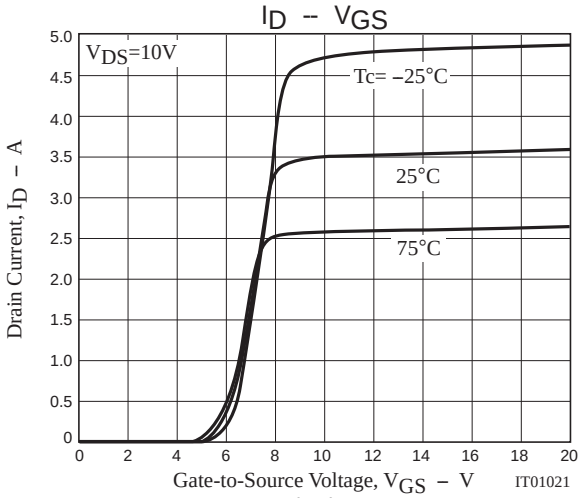
Switching Time Test Circuit

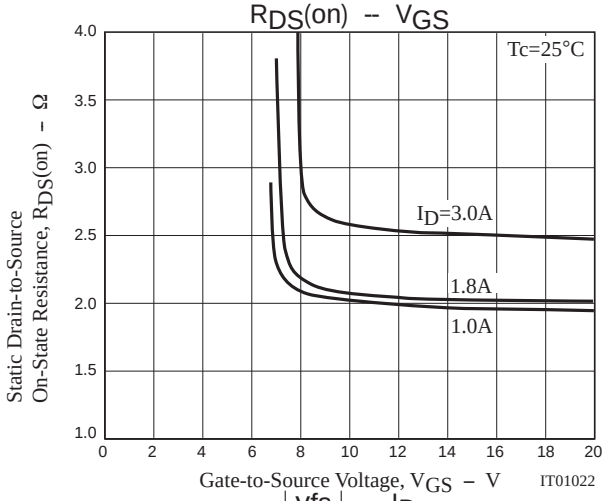


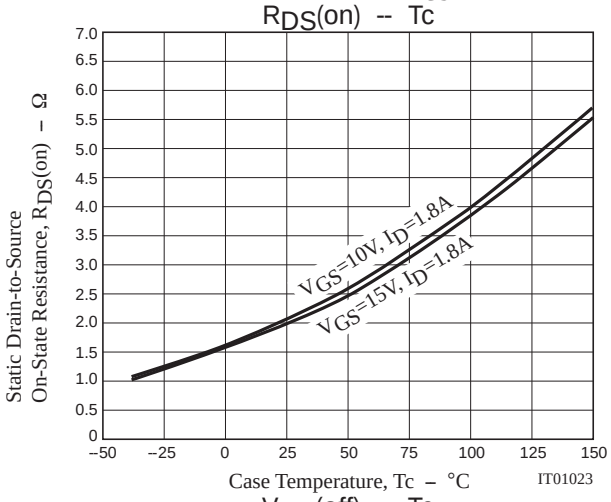
Avalanche Resistance Test Circuit

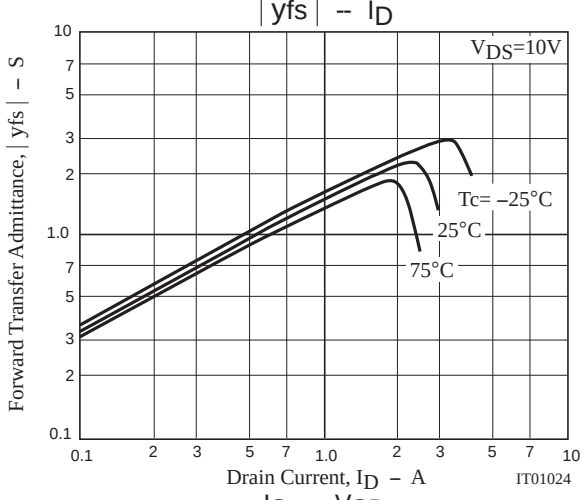


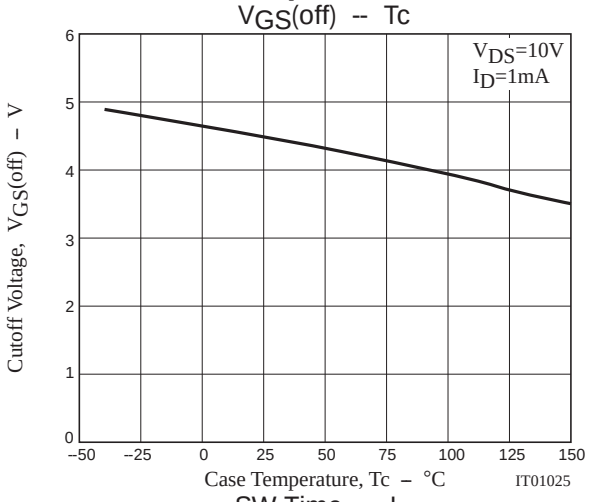

ID -- VDS
Drain Current, ID – A
Drain-to-Source Voltage, VDS – V
IT01020
15V
8V
10V
7V
VGS=6V

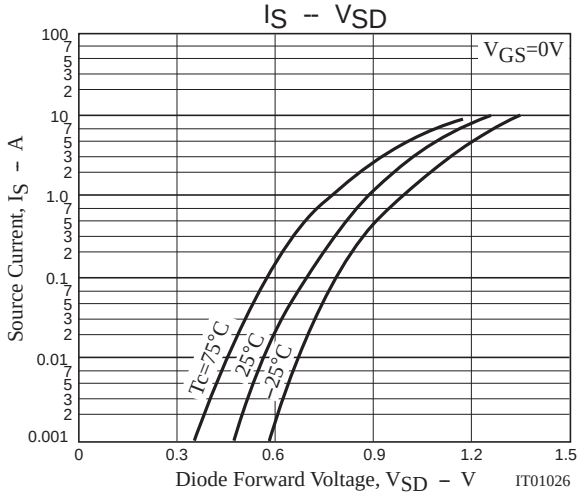

ID -- VGS
Drain Current, ID – A
Gate-to-Source Voltage, VGS – V
IT01021
VDS=10V
Tc= –25°C
25°C
75°C

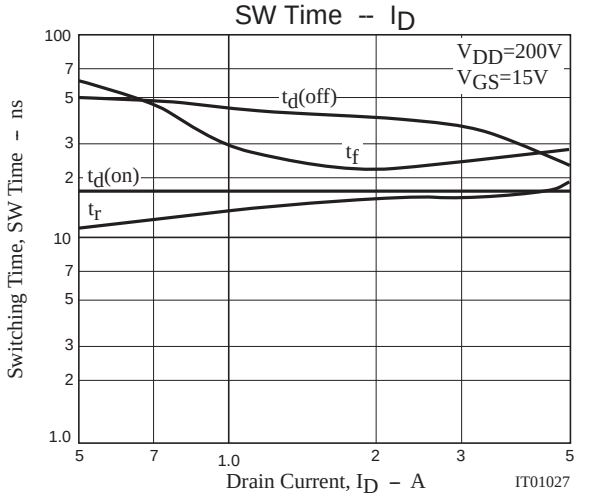

RDS(on) -- VGS
Static Drain-to-Source On-State Resistance, RDS(on) – Ω
Gate-to-Source Voltage, VGS – V
IT01022
Tc=25°C
ID=3.0A
1.8A
1.0A


RDS(on) -- Tc
Static Drain-to-Source On-State Resistance, RDS(on) – Ω
Case Temperature, Tc – °C
IT01023
VGS=10V, ID=1.8A
VGS=15V, ID=1.8A

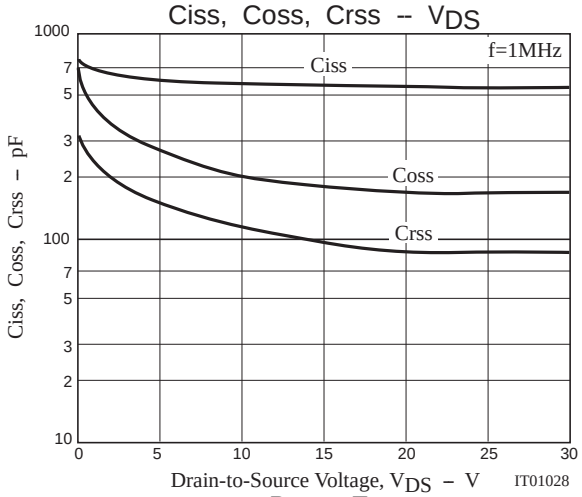

| yfs | -- ID
Forward Transfer Admittance, | yfs | – S
Drain Current, ID – A
IT01024
VDS=10V
Tc= –25°C
25°C
75°C


VGS(off) -- Tc
Cutoff Voltage, VGS(off) – V
Case Temperature, Tc – °C
IT01025
VDS=10V
ID=1mA

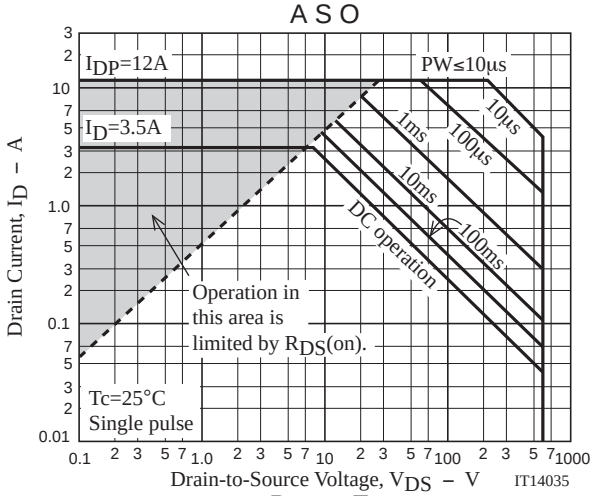

IS -- VSD
Source Current, IS – A
Diode Forward Voltage, VSD – V
IT01026
VGS=0V
Tc=75°C
25°C
–25°C


SW Time -- ID
Switching Time, SW Time – ns
Drain Current, ID – A
IT01027
VDD=200V
VGS=15V
td(off)
tf
td(on)
tr

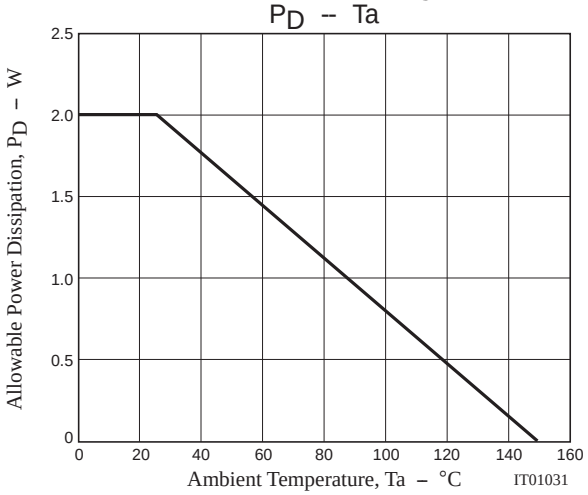
Ciss, Coss, Crss -- V_{DS}



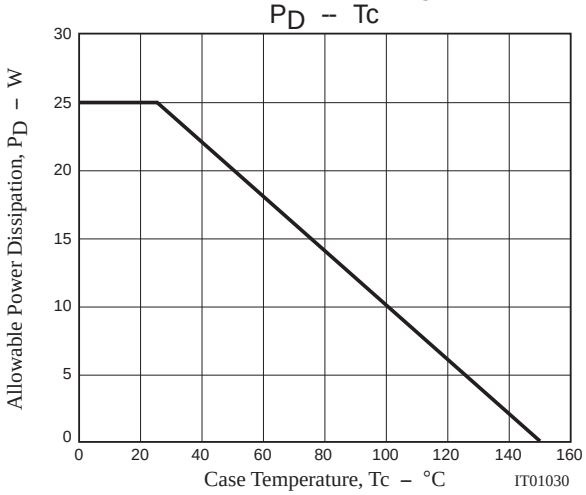
A S O



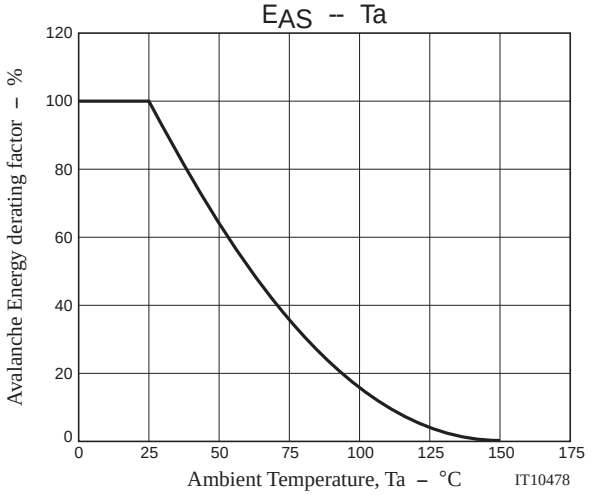
P_D -- Ta



P_D -- Tc



E_{AS} -- Ta



Note on usage : Since the 2SK2624FS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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