


SANYO Semiconductors

DATA SHEET

N-Channel Silicon MOSFET

2SK2405 — General-Purpose Switching Device Applications

Features

- Built-in FRD.
- 10V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		450	V
Gate-to-Source Voltage	V _{GSS}		±30	V
Drain Current (DC)	I _D		10	A
Drain Current (Pulse)	I _{DP}		40	A
Allowable Power Dissipation	P _D		1.65	W
		T _c =25°C	70	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	450			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =450V, 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	2.0		3.0	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =6A	3	6		S
Static Drain-to-Source On-State Resistance	R _{DS(on)}	I _D =6A, V _{GS} =10V		0.55	0.75	Ω
Input Capacitance	C _{iss}	V _{DS} =20V, f=1MHz		1500		pF
Output Capacitance	C _{oss}	V _{DS} =20V, f=1MHz		220		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =20V, f=1MHz		75		pF

Continued on next page.

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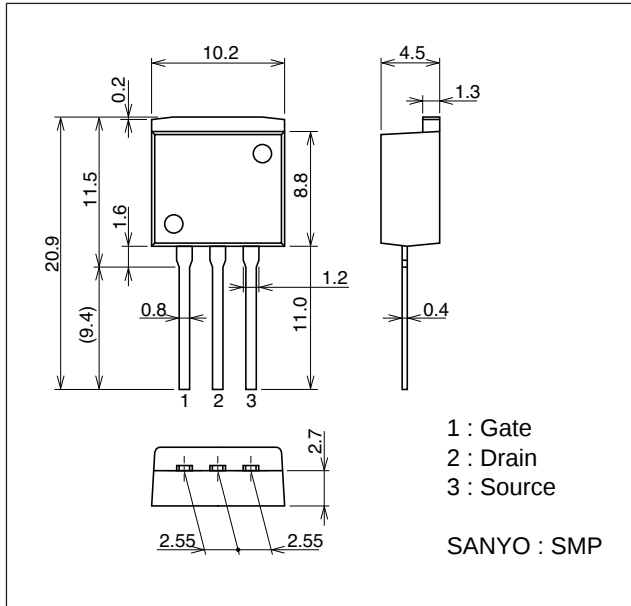
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		22		ns
Rise Time	t_r	See specified Test Circuit.		60		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		230		ns
Fall Time	t_f	See specified Test Circuit.		75		ns
Diode Forward Voltage	V_{SD}	$I_S=10A$, $V_{GS}=0V$			1.5	V
Diode Reverse Recovery Time	t_{rr}	$I_S=10A$, $di/dt=100A/\mu s$		150	195	ns

Package Dimensions

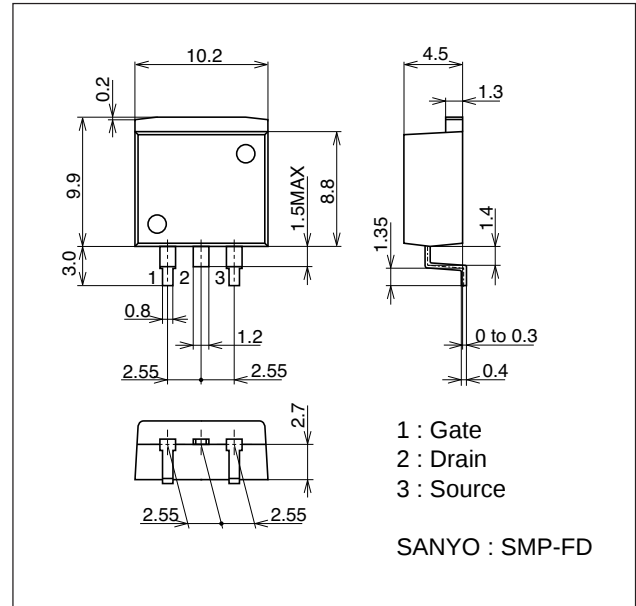
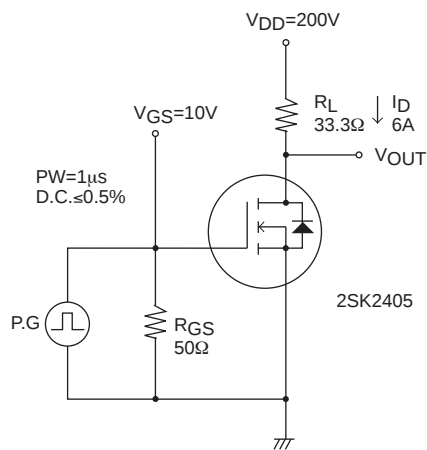
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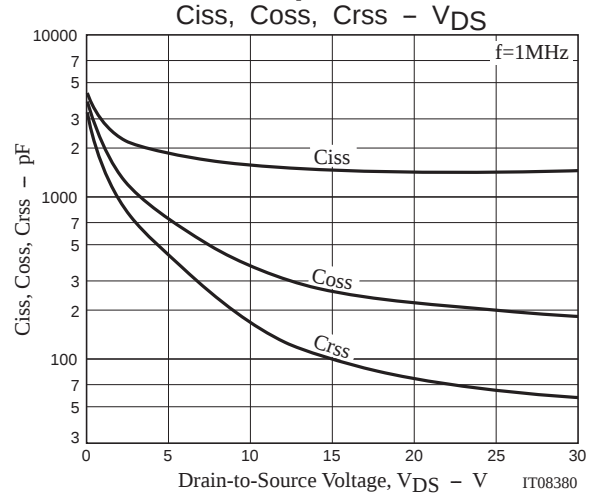
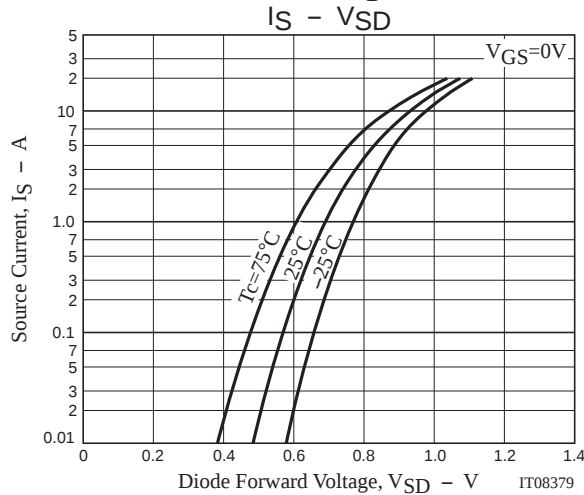
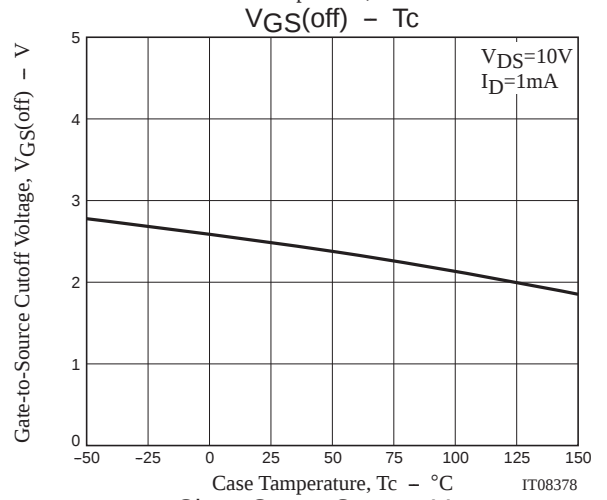
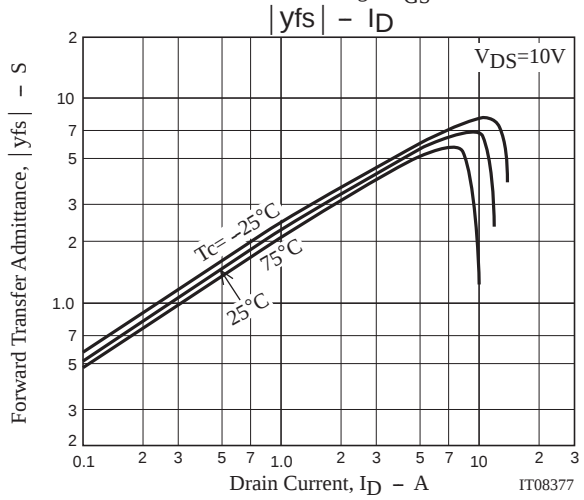
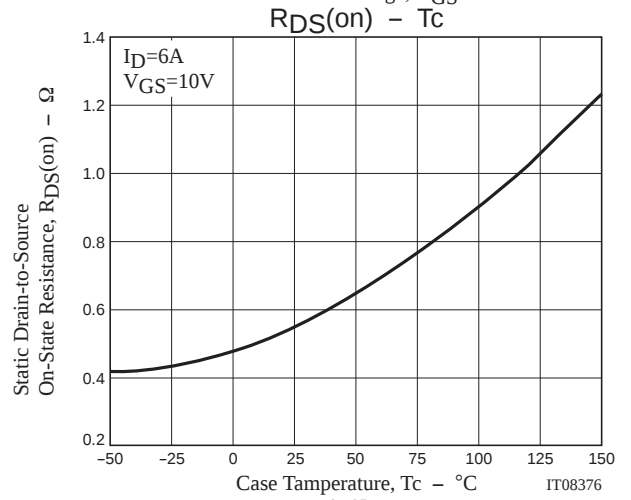
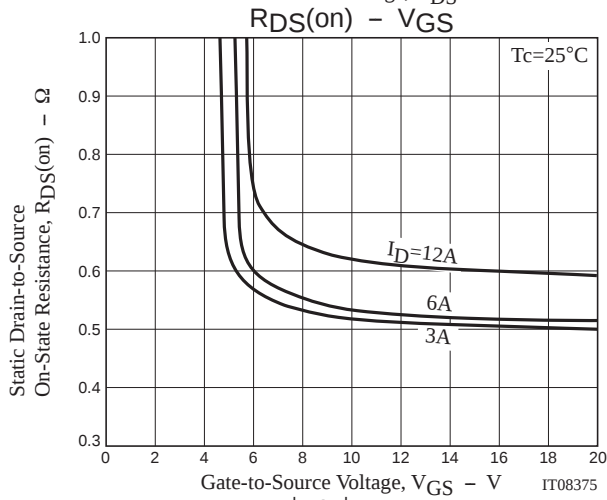
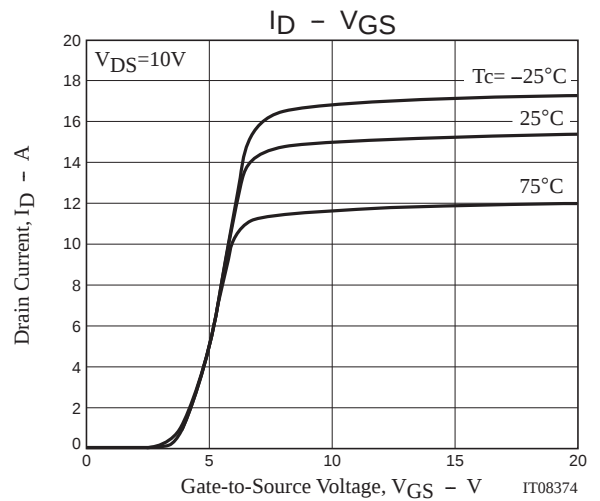
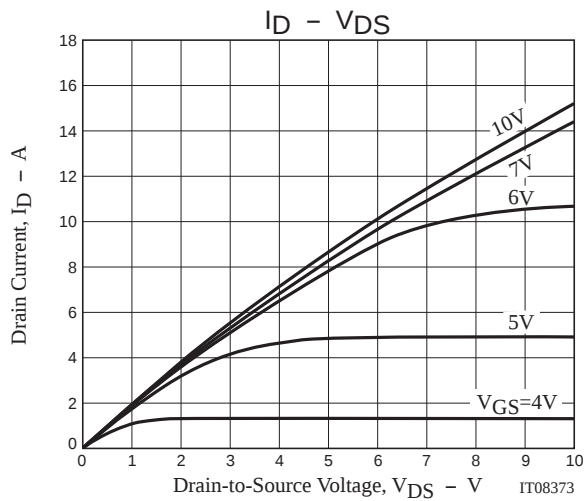
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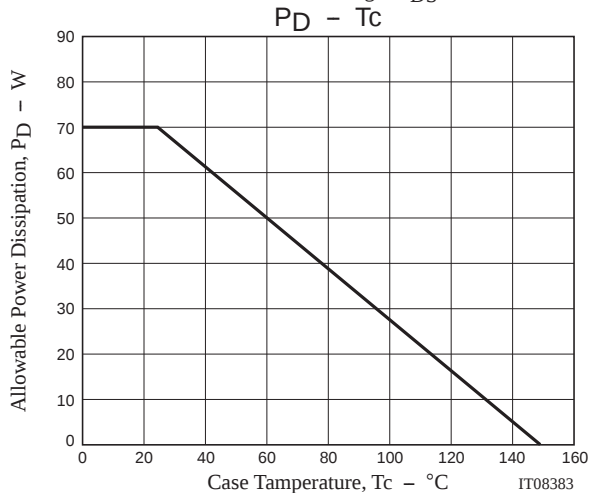
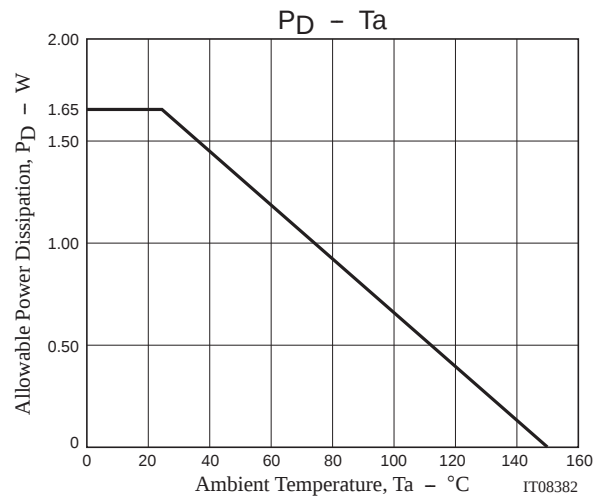
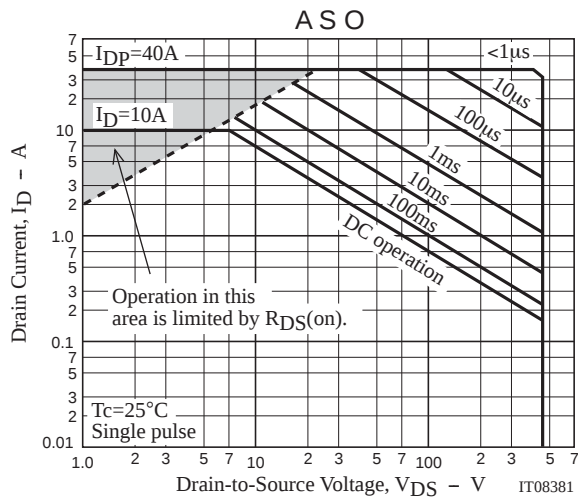
**Package Dimensions**

unit : mm(typ)

7001-003

**Switching Time Test Circuit**





Note on usage : Since the 2SK2405 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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