



# 2SK3284 — N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

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

### Specifications

#### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		400	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±30	V
Drain Current (DC)	I <sub>D</sub>		10	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	40	A
Allowable Power Dissipation	P <sub>D</sub>	Tc=25°C	50	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

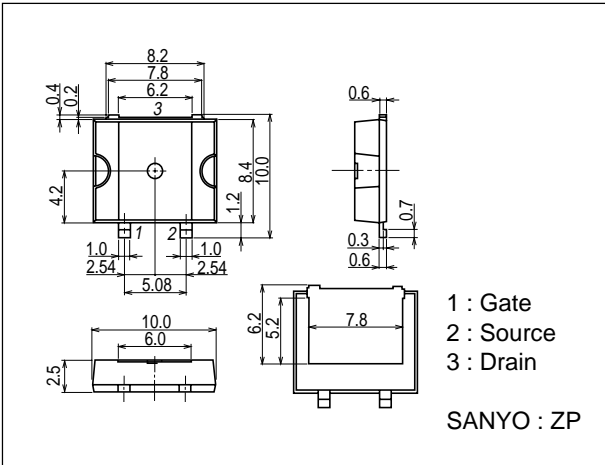
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> =1mA, V <sub>GS</sub> =0V	400			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =320V, V <sub>GS</sub> =0V			1.0	mA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±30V, V <sub>DS</sub> =0V			±100	nA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA		3	4	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =6A	2.9	5.8		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)</sub>	I <sub>D</sub> =6A, V <sub>GS</sub> =15V		0.43	0.55	Ω
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =20V, f=1MHz		1150		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =20V, f=1MHz		350		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =20V, f=1MHz		150		pF
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =200V, V <sub>GS</sub> =10V, I <sub>D</sub> =10A		40		nC
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		17		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		30		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit.		150		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		50		ns
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =10A, V <sub>GS</sub> =0V			1.2	V

Note) Although the protection diode is contained between gate and source, be careful of handling enough.

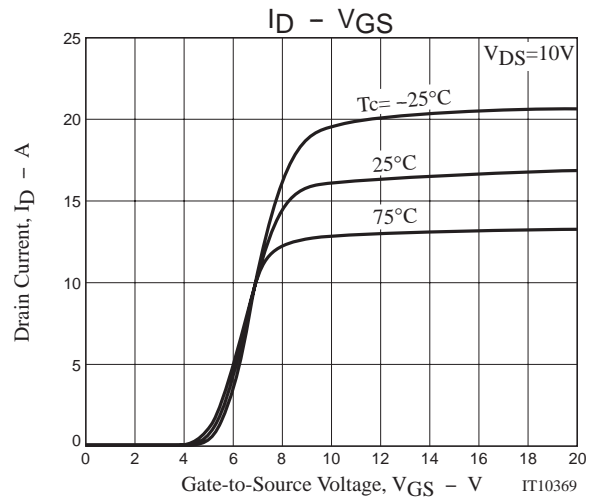
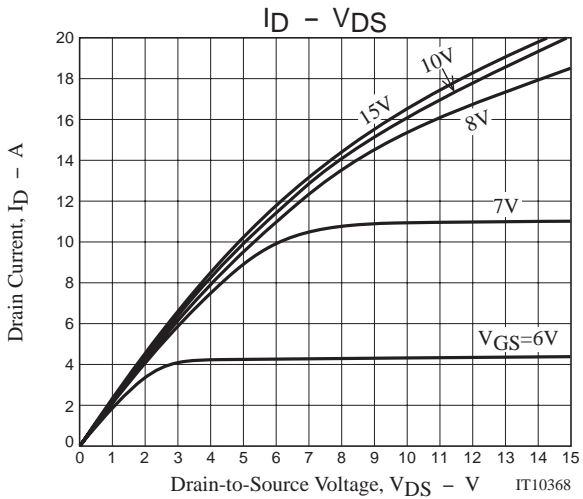
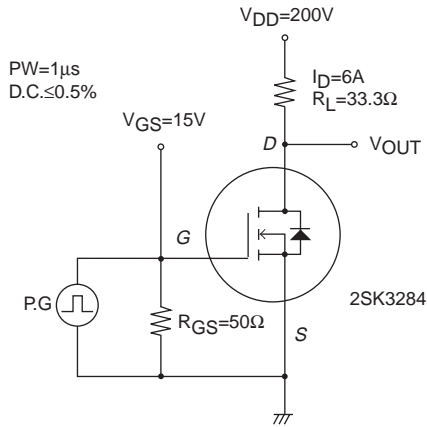
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**Package Dimensions**

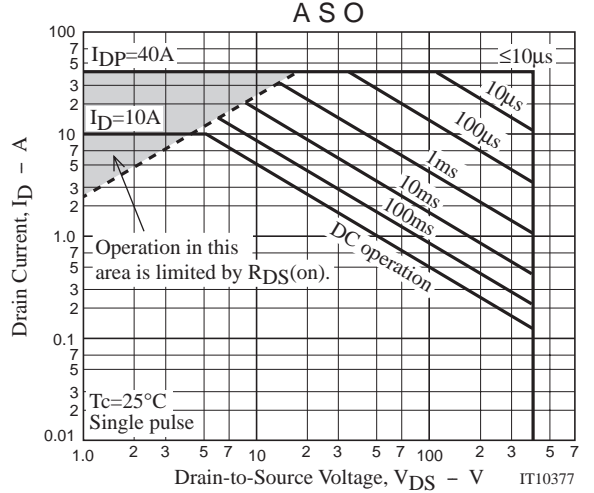
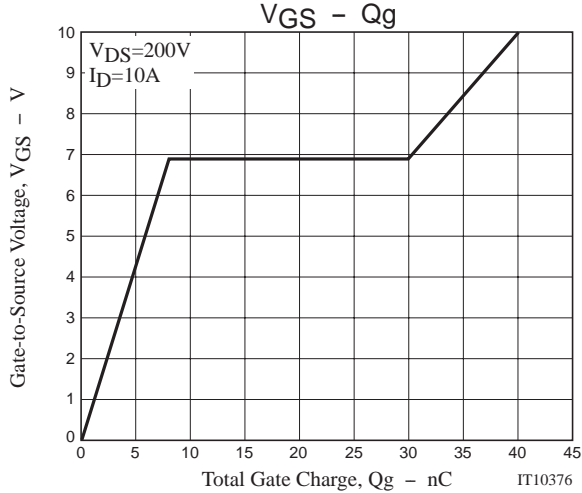
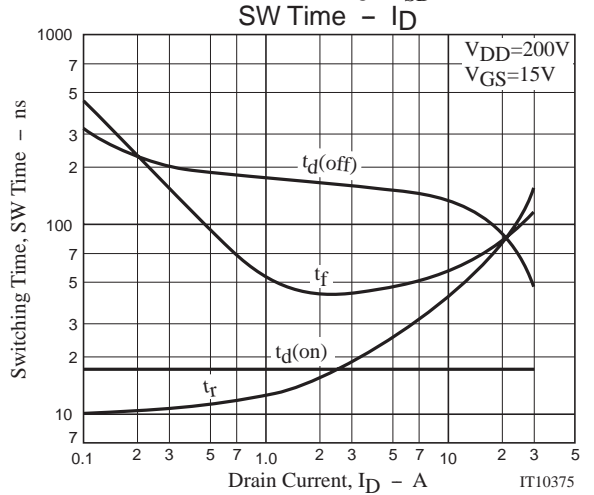
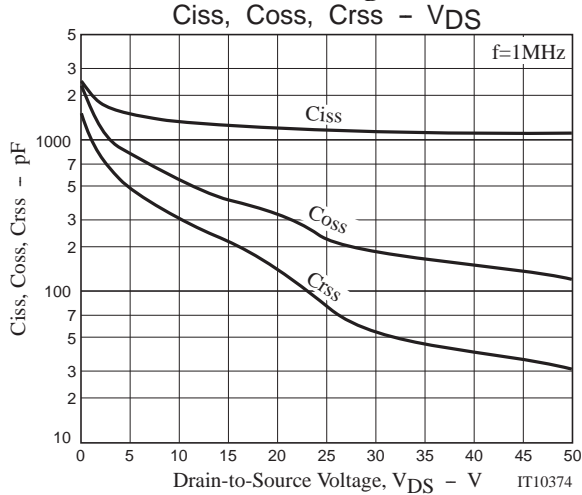
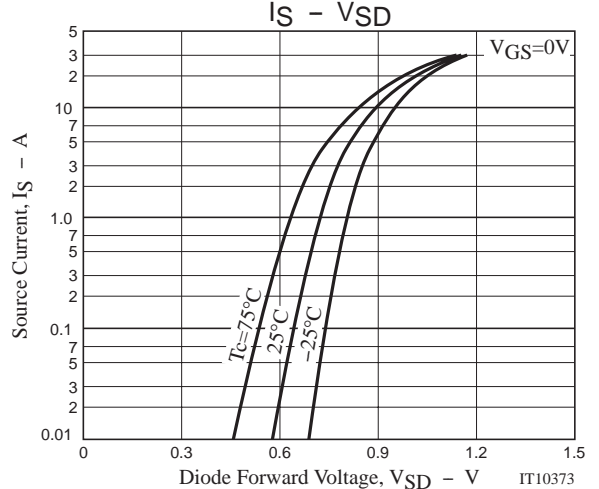
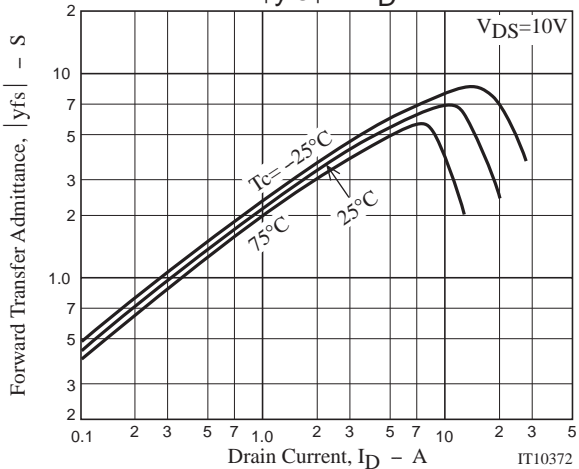
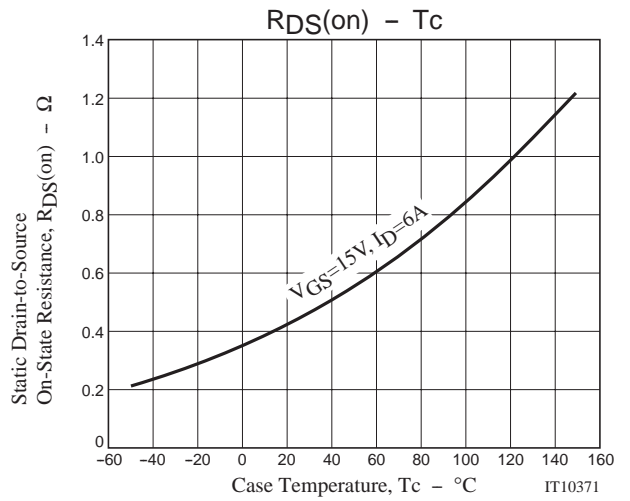
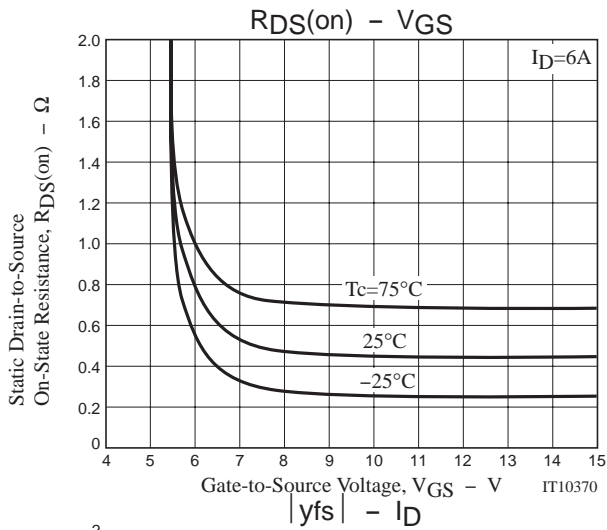
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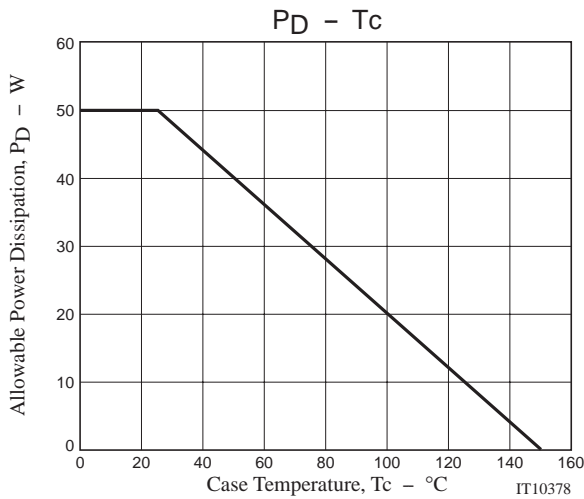


**Switching Time Test Circuit**



# 2SK3284





Note on usage : Since the 2SK3284 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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