



# 2SK2433 — N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Low ON-resistance.
- Low-voltage drive.
- Enables simplified fabrication, high-density mounting, and miniaturization in end products due to the surface mountable package.

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		60	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current	I <sub>D</sub>		30	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	120	A
Allowable Power Dissipation	P <sub>D</sub>	Tc=25°C	40	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	60			V
Gate-to-Source Breakdown Voltage	V <sub>(BR)GSS</sub>	I <sub>G</sub> =±100μA, V <sub>DS</sub> =0V	±20			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =60V, V <sub>GS</sub> =0V			100	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	1.0		2.0	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =15A	16.0	27.0		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =15A, V <sub>GS</sub> =10V		30	40	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =15A, V <sub>GS</sub> =4V		40	55	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =20V, f=1MHz		1900		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =20V, f=1MHz		500		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =20V, f=1MHz		100		pF

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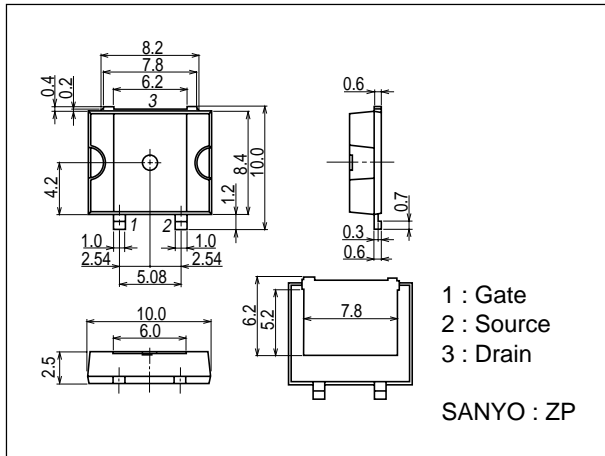
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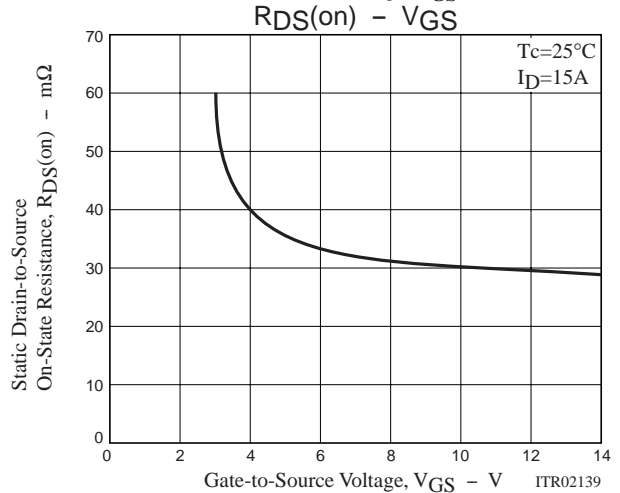
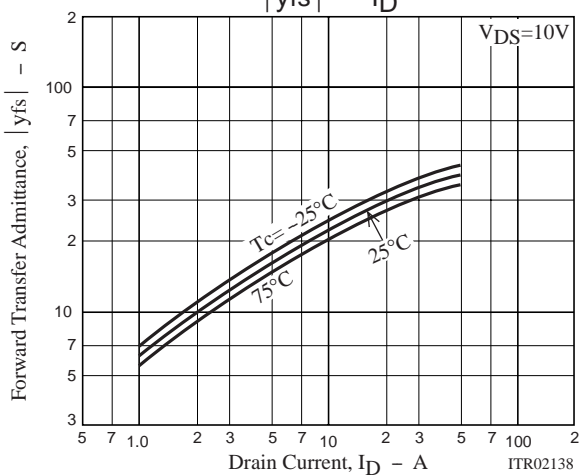
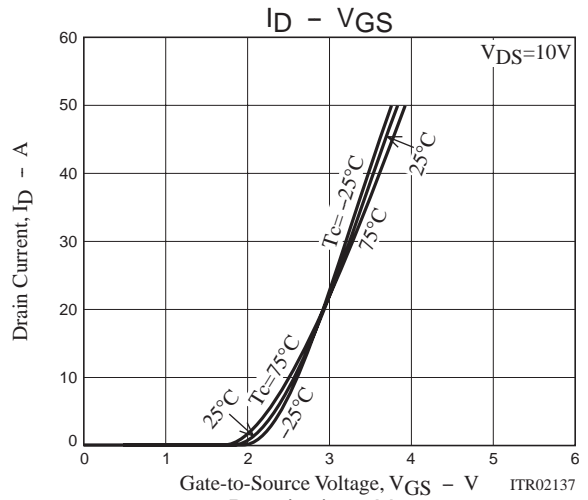
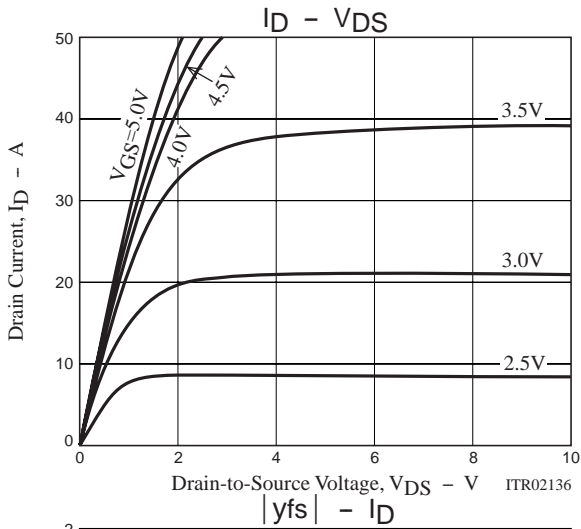
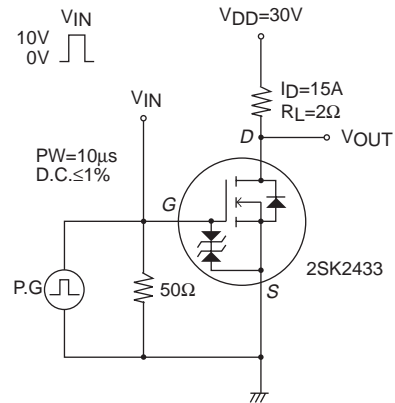
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_d(\text{on})$	See specified Test Circuit.		15		ns
Rise Time	$t_r$	See specified Test Circuit.		30		ns
Turn-OFF Delay Time	$t_d(\text{off})$	See specified Test Circuit.		335		ns
Fall Time	$t_f$	See specified Test Circuit.		225		ns
Diode Forward Voltage	$V_{SD}$	$I_S=30A, V_{GS}=0V$		1.0	1.5	V

## Package Dimensions

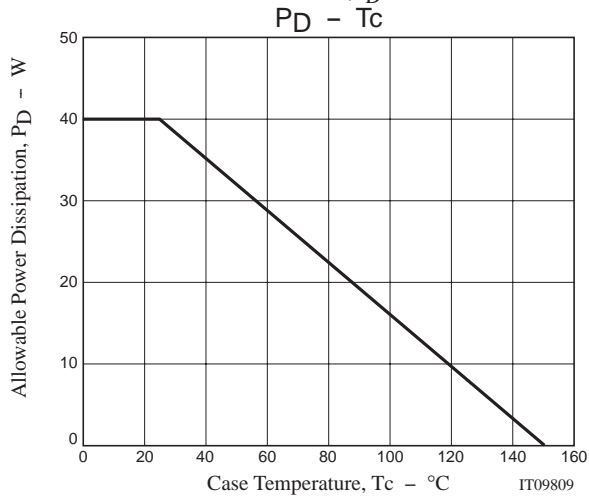
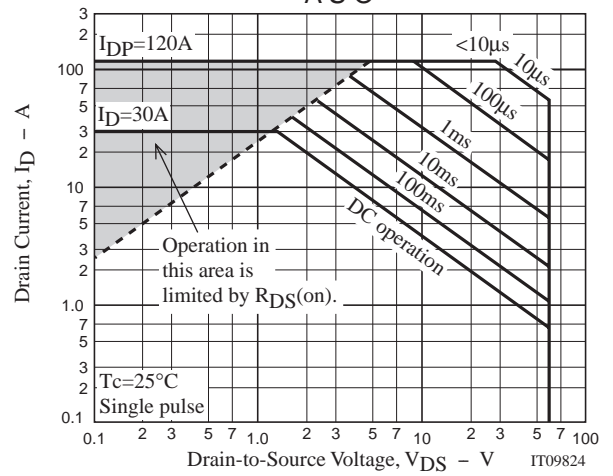
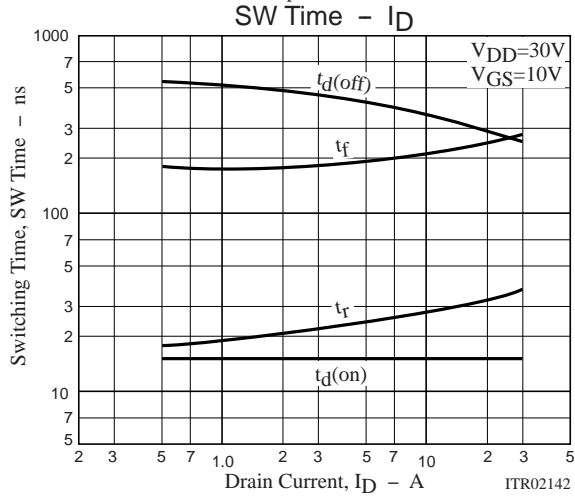
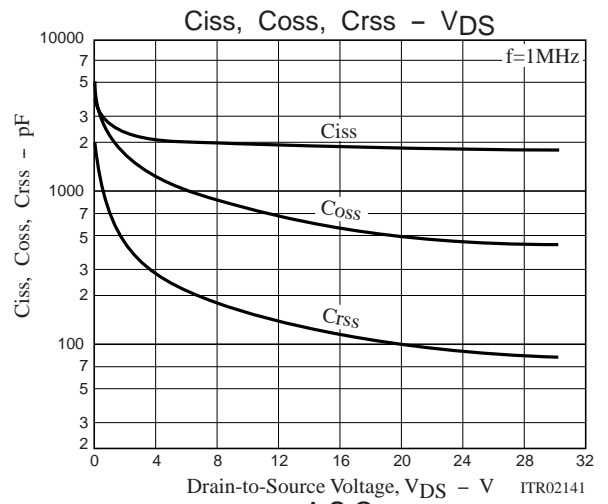
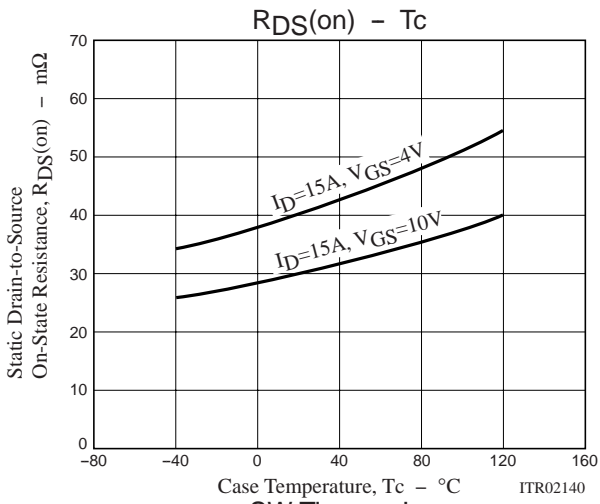
unit : mm  
7002-001



## Switching Time Test Circuit



# 2SK2433



Note on usage : Since the 2SK2433 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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