



# 2SK4067 — N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Motor drive applications.
- 4.5V drive.

### Specifications

**Absolute Maximum Ratings** at  $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		30	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		8	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	32	A
Allowable Power Dissipation	PD		1	W
		$T_c=25^\circ\text{C}$	10	W
Channel Temperature	$T_{ch}$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

**Electrical Characteristics** at  $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}$ , $V_{GS}=0\text{V}$	30			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=30\text{V}$ , $V_{GS}=0\text{V}$			1	$\mu\text{A}$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 16\text{V}$ , $V_{DS}=0\text{V}$			$\pm 10$	$\mu\text{A}$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$ , $I_D=1\text{mA}$	1.5		2.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$ , $I_D=4\text{A}$	2.6	4.4		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=8\text{A}$ , $V_{GS}=10\text{V}$		85	115	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=4\text{A}$ , $V_{GS}=4.5\text{V}$		155	220	$\text{m}\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=10\text{V}$ , $f=1\text{MHz}$		260		pF
Output Capacitance	$C_{oss}$	$V_{DS}=10\text{V}$ , $f=1\text{MHz}$		65		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=10\text{V}$ , $f=1\text{MHz}$		40		pF

Marking : K4067

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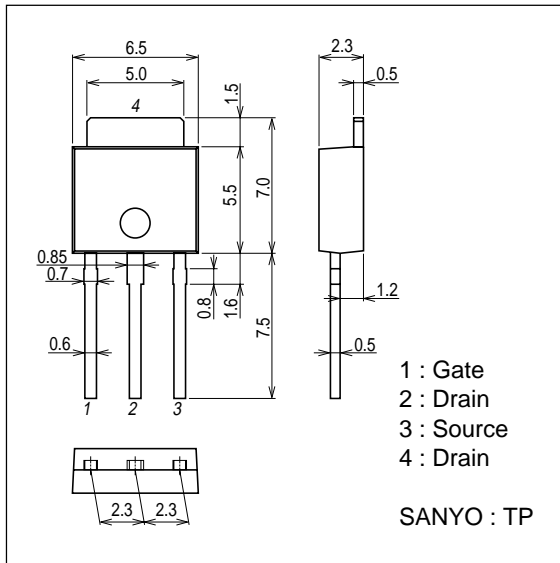
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_d(\text{on})$	See specified Test Circuit.		9		ns
Rise Time	$t_r$	See specified Test Circuit.		8		ns
Turn-OFF Delay Time	$t_d(\text{off})$	See specified Test Circuit.		19		ns
Fall Time	$t_f$	See specified Test Circuit.		8		ns
Total Gate Charge	$Q_g$	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		6		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		1.2		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		1.0		nC
Diode Forward Voltage	$V_{SD}$	$I_S=8A, V_{GS}=0V$	1.05	1.2		V

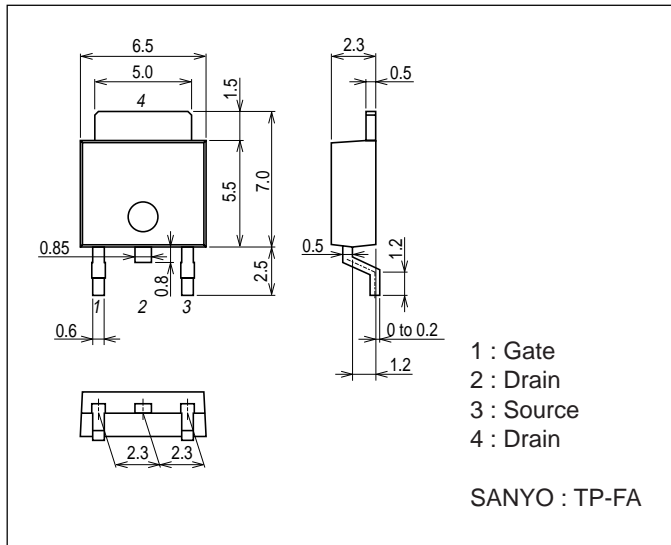
## Package Dimensions

unit : mm (typ)  
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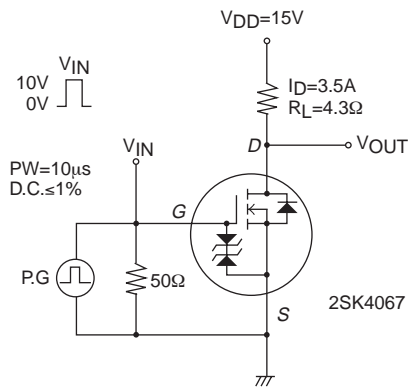


## Package Dimensions

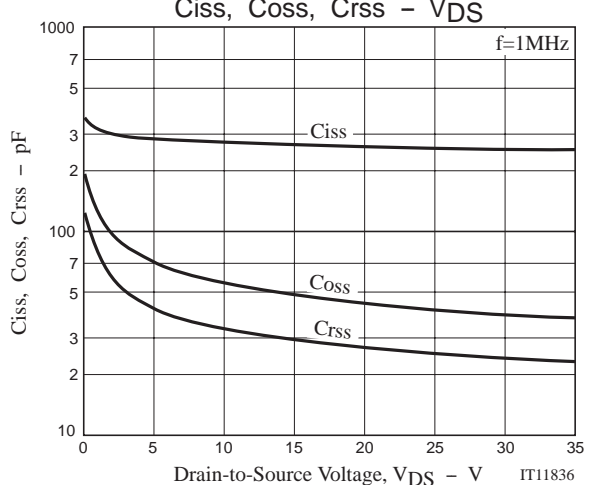
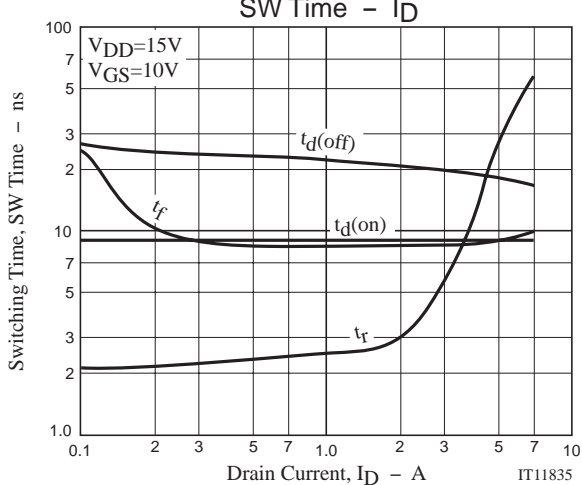
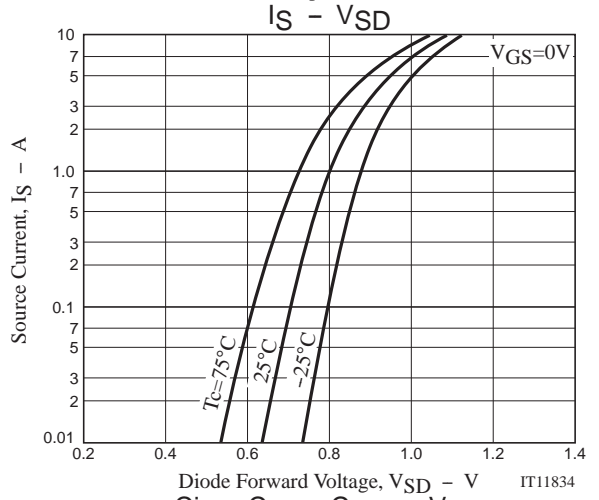
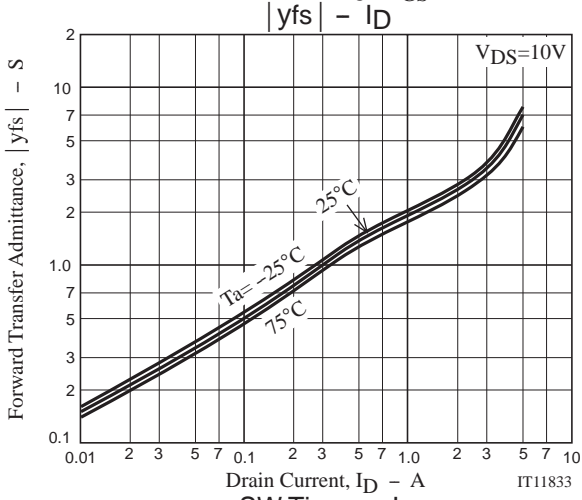
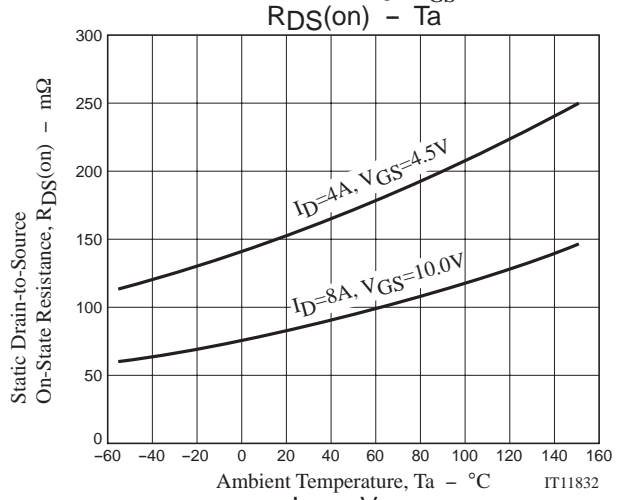
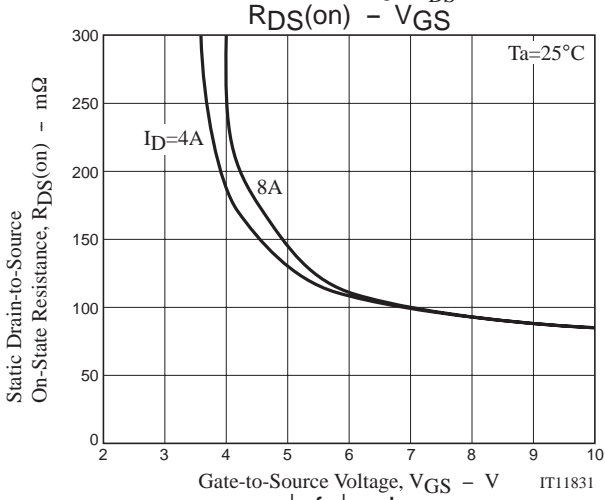
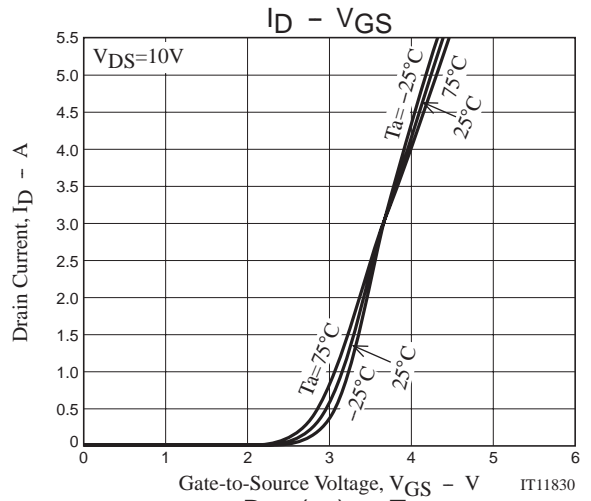
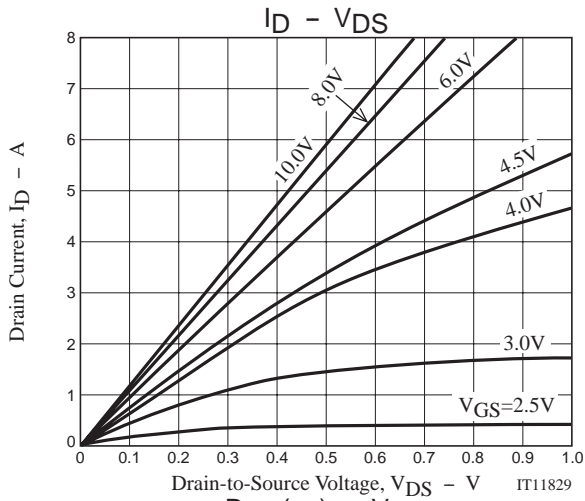
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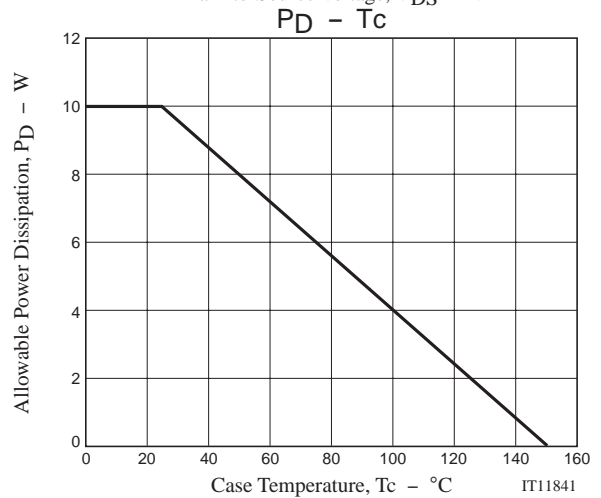
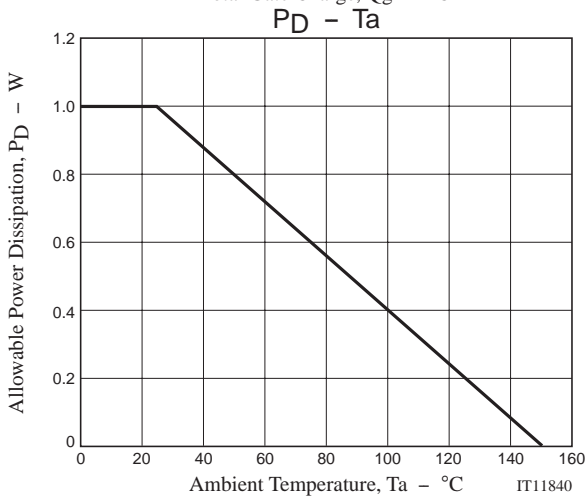
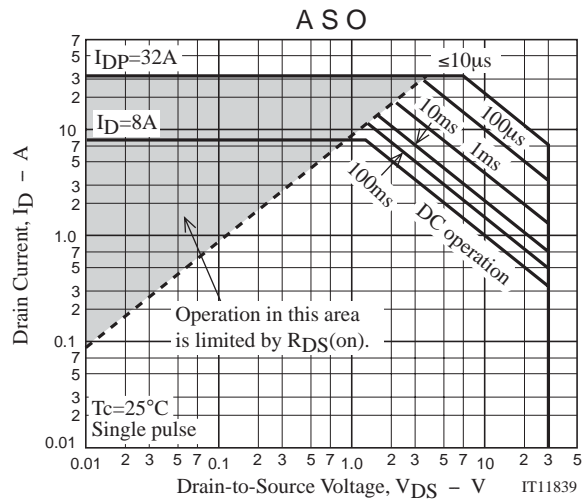
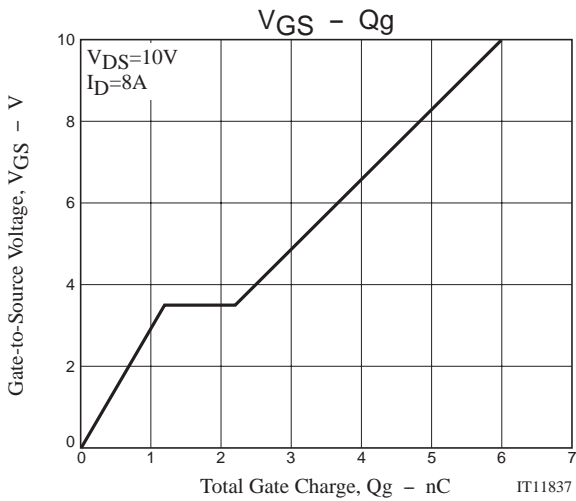


## Switching Time Test Circuit



# 2SK4067





Note on usage : Since the 2SK4067 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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