



SANYO Semiconductors

## DATA SHEET

# 2SK3485

N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 2.5V drive.

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		20	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 10$	V
Drain Current (DC)	$I_D$		2.5	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	10	A
Allowable Power Dissipation	$P_D$	Mounted on a ceramic board (250mm $\times$ 0.8mm)	1.0	W
		$T_c=25^\circ\text{C}$	3.5	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	$V_{(BR)DSS}$	$I_D=1\text{mA}$ , $V_{GS}=0\text{V}$	20			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=20\text{V}$ , $V_{GS}=0\text{V}$			1	$\mu\text{A}$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 8\text{V}$ , $V_{DS}=0\text{V}$			$\pm 10$	$\mu\text{A}$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$ , $I_D=1\text{mA}$	0.4		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$ , $I_D=1.3\text{A}$	2.8	4.0		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=1.3\text{A}$ , $V_{GS}=4\text{V}$		110	140	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=0.7\text{A}$ , $V_{GS}=2.5\text{V}$		140	195	$\text{m}\Omega$

Marking : LB

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# 2SK3485

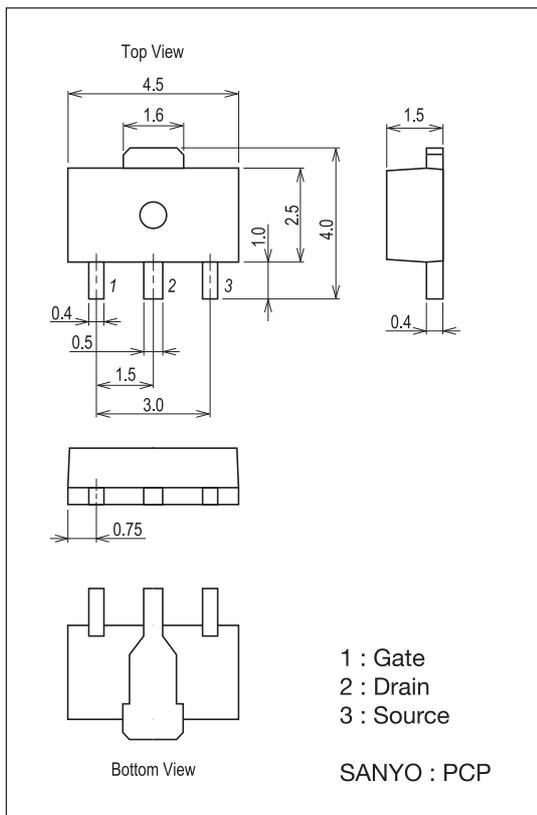
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V <sub>DS</sub> =10V, f=1MHz		190		pF
Output Capacitance	Coss	V <sub>DS</sub> =10V, f=1MHz		40		pF
Reverse Transfer Capacitance	Crss	V <sub>DS</sub> =10V, f=1MHz		25		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		9		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		33		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit.		25		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		21		ns
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =4V, I <sub>D</sub> =2.5A		2.7		nC
Gate-to-Source Charge	Q <sub>gs</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =4V, I <sub>D</sub> =2.5A		0.6		nC
Gate-to-Drain "Miller" Charge	Q <sub>gd</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =4V, I <sub>D</sub> =2.5A		0.6		nC
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =2.5A, V <sub>GS</sub> =0V		0.92	1.2	V

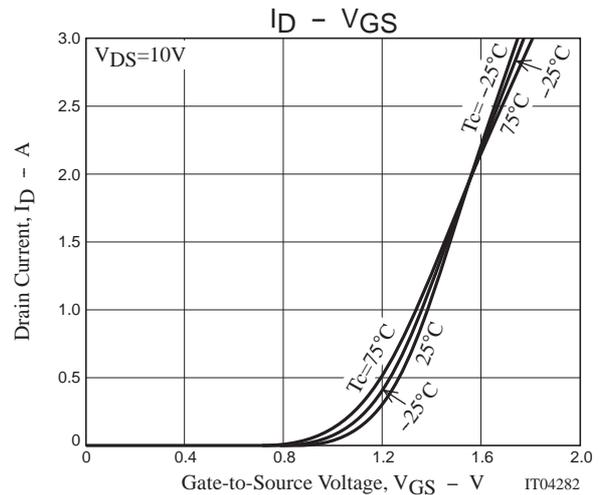
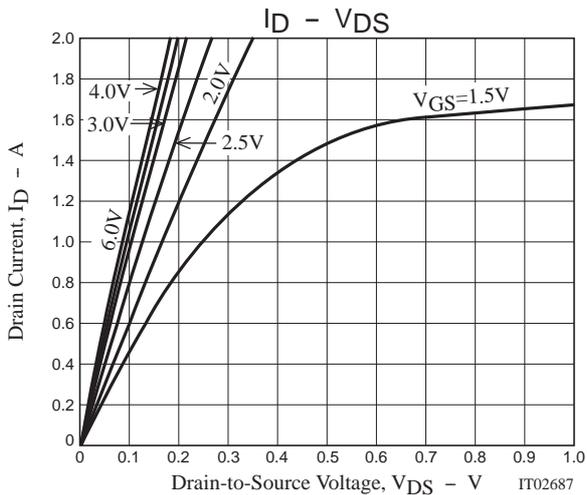
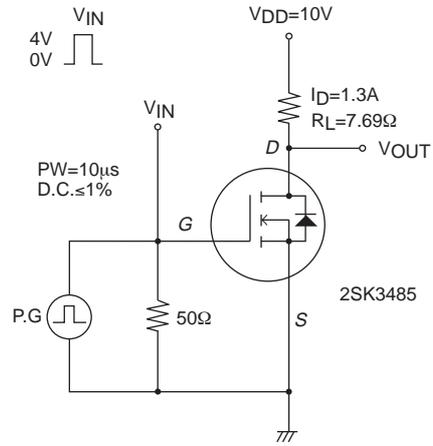
## Package Dimensions

unit : mm (typ)

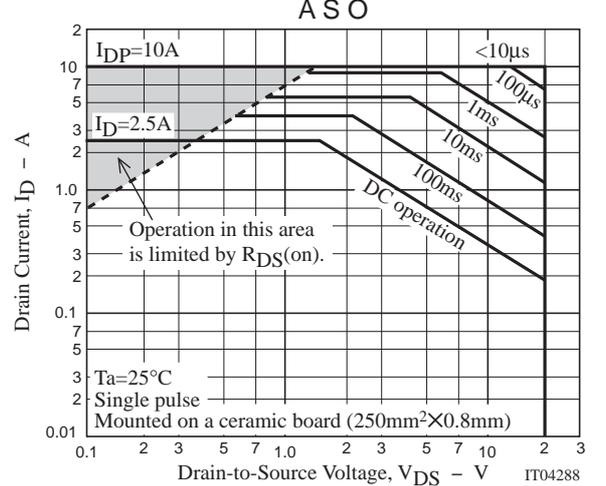
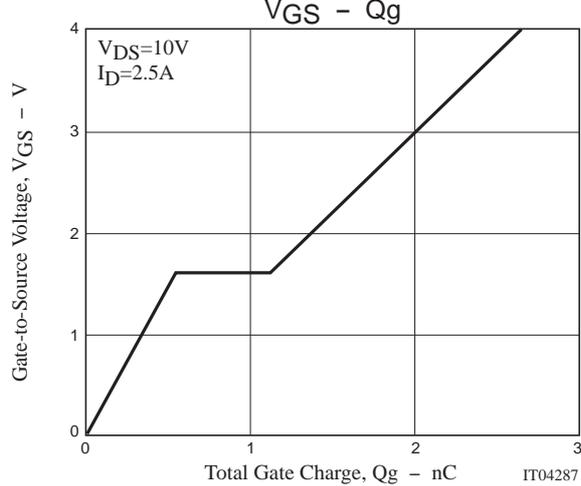
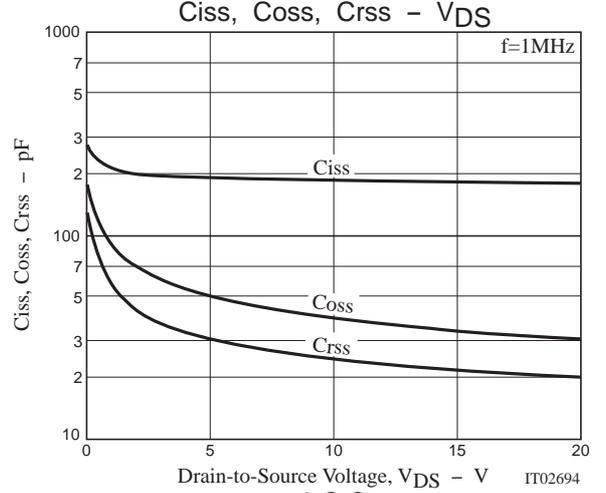
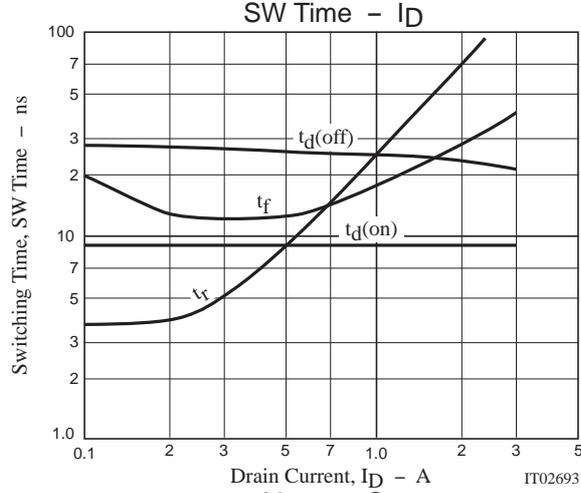
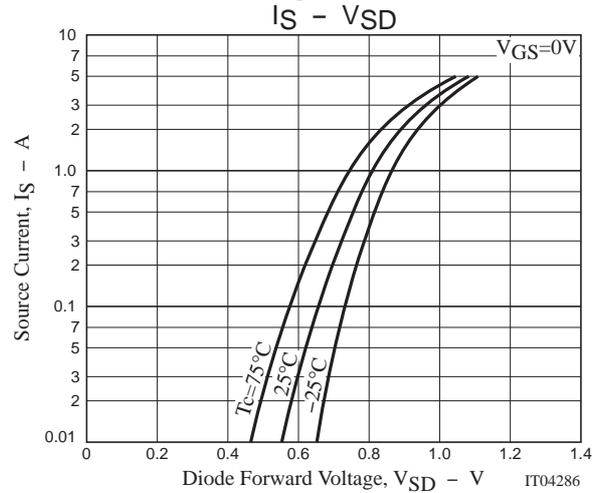
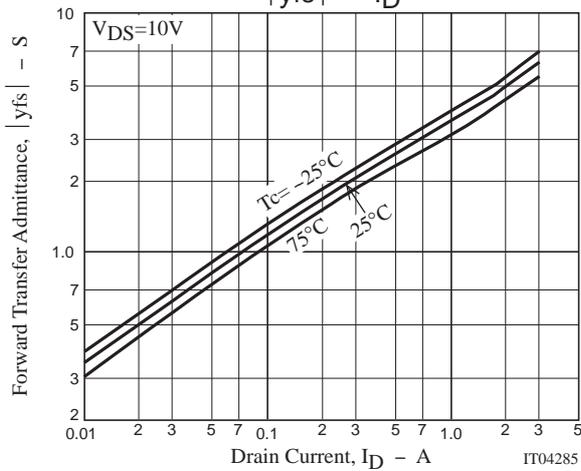
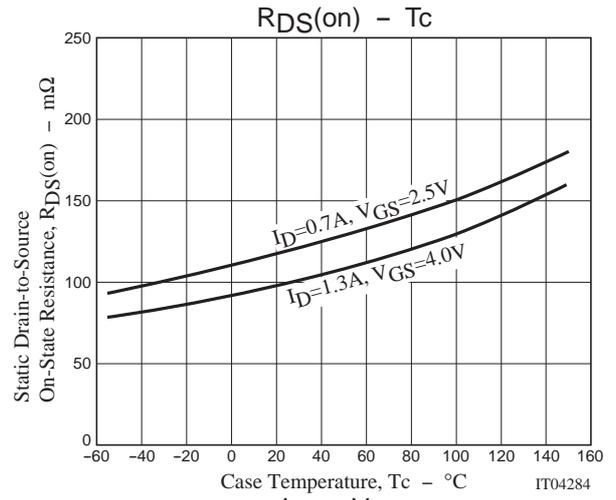
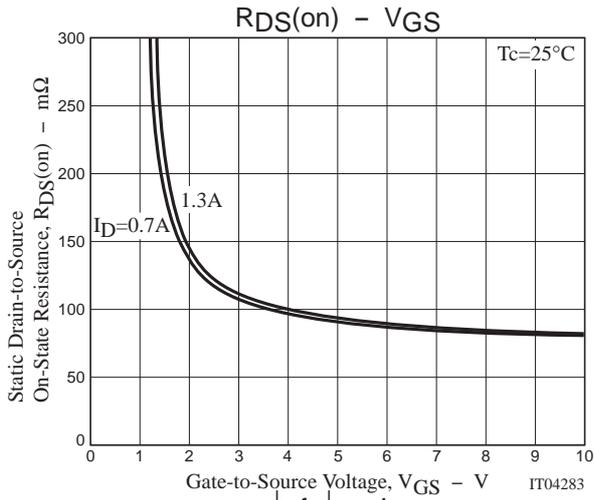
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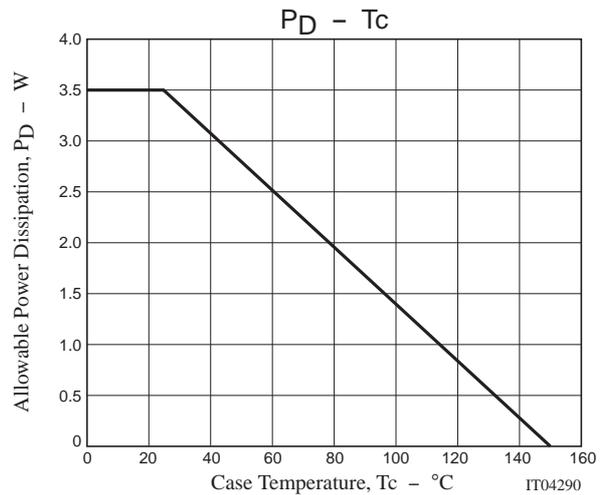
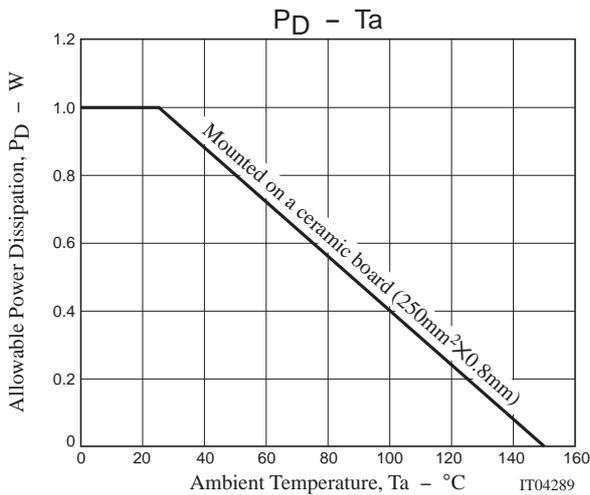
## Switching Time Test Circuit



# 2SK3485



## 2SK3485



Note on usage : Since the 2SK3485 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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