

**2SK3489**

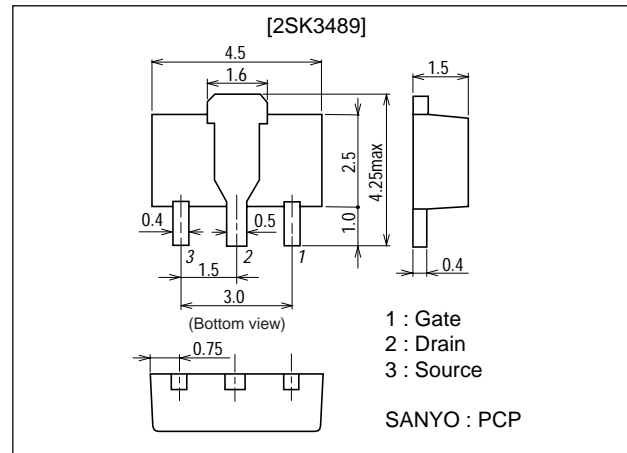
## Ultrahigh-Speed Switching Applications

### Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.

### Package Dimensions

unit : mm  
2062A



### Specifications

#### Absolute Maximum Ratings at Ta=25°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)	$I_{DP}$	$PW \leq 10 \mu s$ , duty cycle $\leq 1\%$	32	A
Allowable Power Dissipation	$P_D$	Mounted on a ceramic board (250mm <sup>2</sup> ×0.8mm)	1.5	W
		$T_c = 25^\circ C$	3.5	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	$V_{(BR)DSS}$	$I_D = 1mA$ , $V_{GS} = 0$	30			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 30V$ , $V_{GS} = 0$			1	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 16V$ , $V_{DS} = 0$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$ , $I_D = 1mA$	1.2		2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10V$ , $I_D = 4A$	3.5	5.1		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = 4A$ , $V_{GS} = 10V$		37	48	$m\Omega$
	$R_{DS(on)2}$	$I_D = 2A$ , $V_{GS} = 4V$		63	88	$m\Omega$

Marking : LF

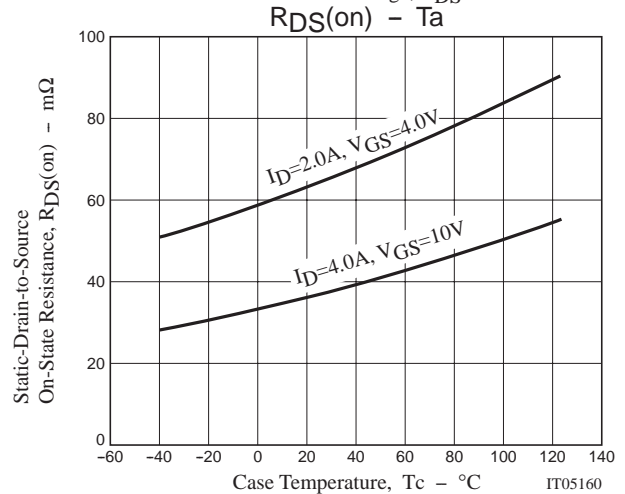
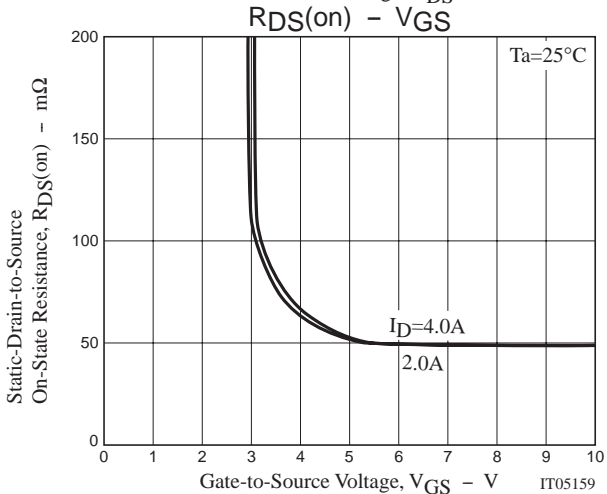
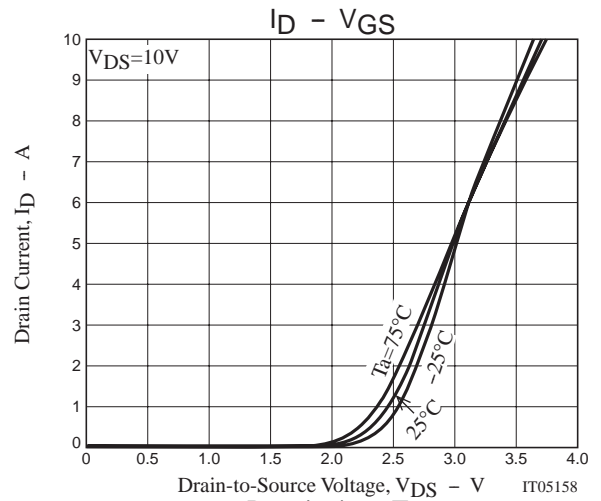
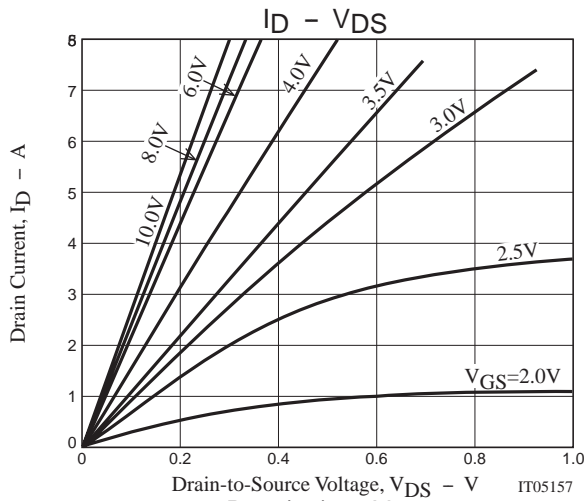
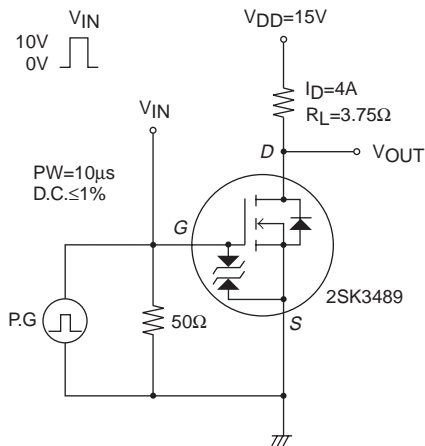
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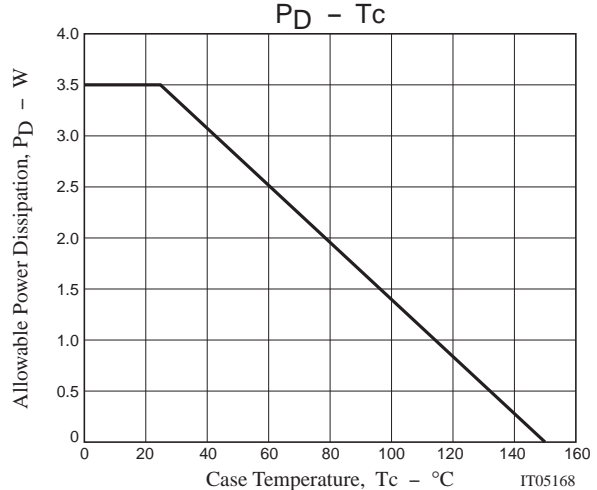
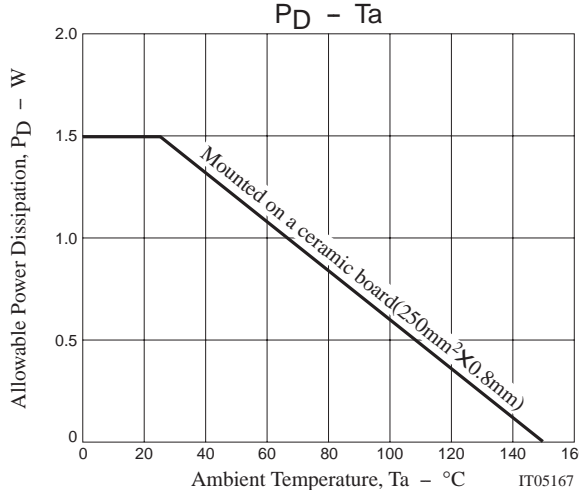
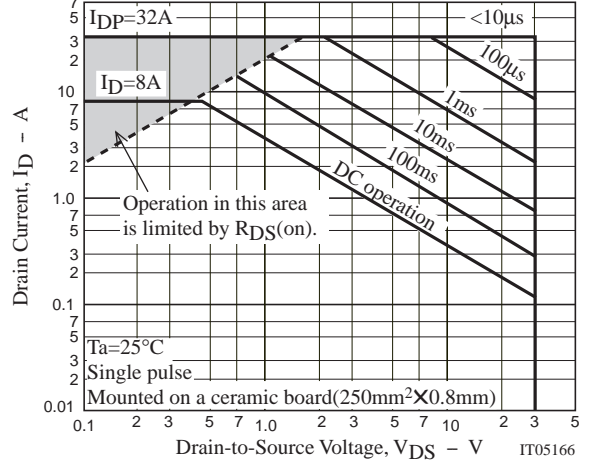
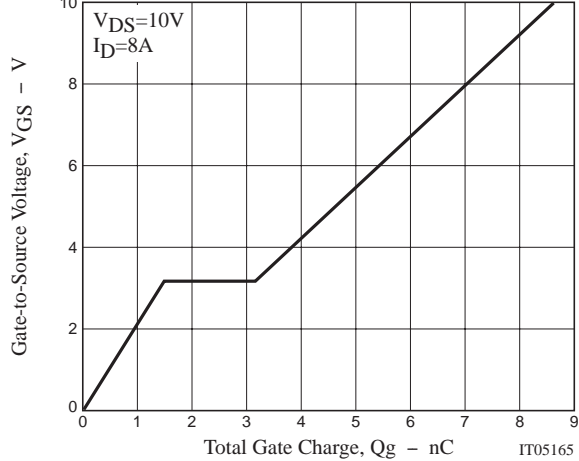
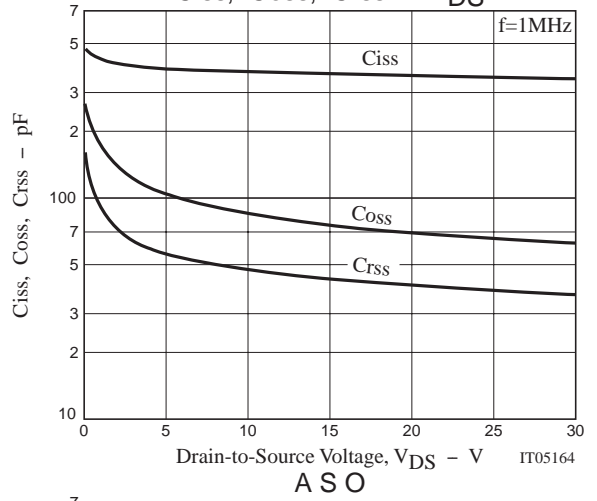
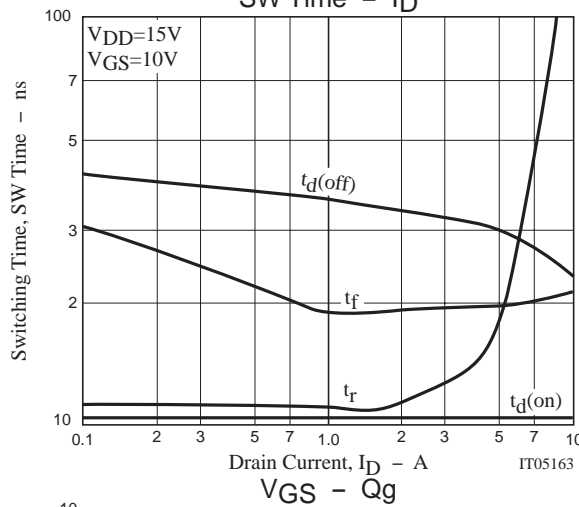
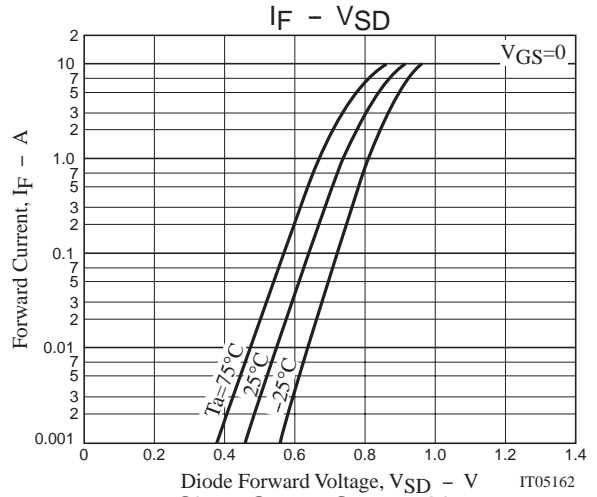
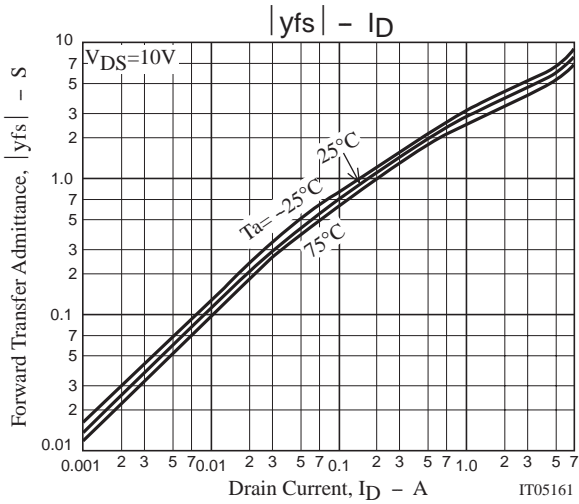
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V <sub>DS</sub> =10V, f=1MHz		370		pF
Output Capacitance	Coss	V <sub>DS</sub> =10V, f=1MHz		85		pF
Reverse Transfer Capacitance	Crss	V <sub>DS</sub> =10V, f=1MHz		47		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		10		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		12.5		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit.		31		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		19		ns
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =10V, I <sub>D</sub> =8A		8.5		nC
Gate-to-Source Charge	Q <sub>gs</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =10V, I <sub>D</sub> =8A		1.8		nC
Gate-to-Drain "Miller" Charge	Q <sub>gd</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =10V, I <sub>D</sub> =8A		1.3		nC
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =8A, V <sub>GS</sub> =0	0.89		1.2	V

Switching Time Test Circuit





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