Ordering number : ENN7181

N-Channel Silicon MOSFET

2SK3488

Ultrahigh-Speed Switching Applications

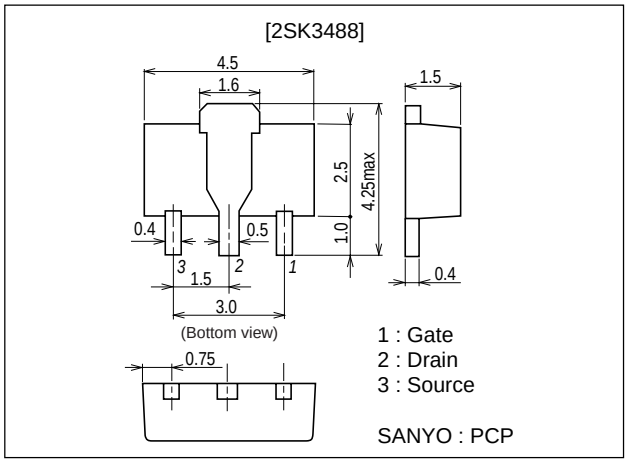
Features

- 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}		±20	V
Drain Current (DC)	I_D		2.5	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	10	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (250mm²×0.8mm)	1.0	W
		Tc=25°C	3.5	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-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	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±16V, V_{DS}=0			±10	μA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=10V, I_D=1mA	1.2		2.6	V
Forward Transfer Admittance	|yfs|	V_{DS}=10V, I_D=1.3A	1.6	2.3		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	I_D=1.3A, V_{GS}=10V		125	160	mΩ
	$R_{DS(on)2}$	I_D=0.7A, V_{GS}=4V		200	280	mΩ

Marking : LE

Continued on next page.

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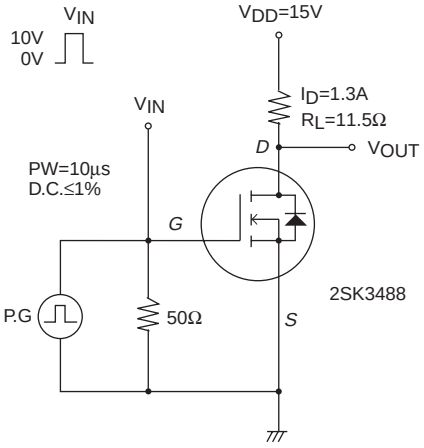
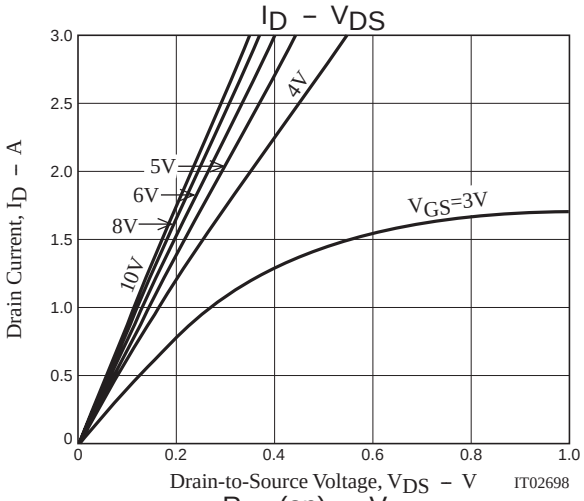
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

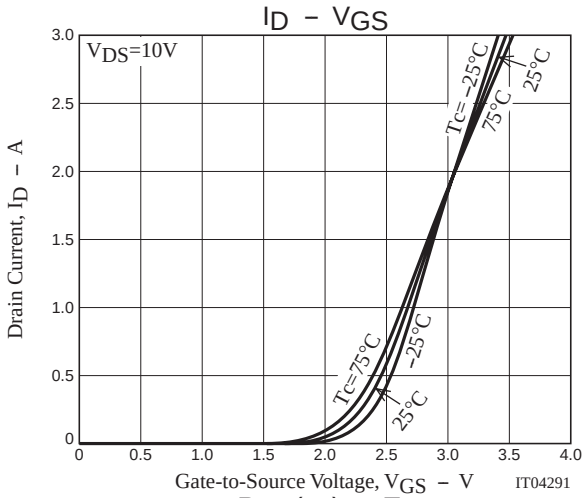
Continued from preceding page.

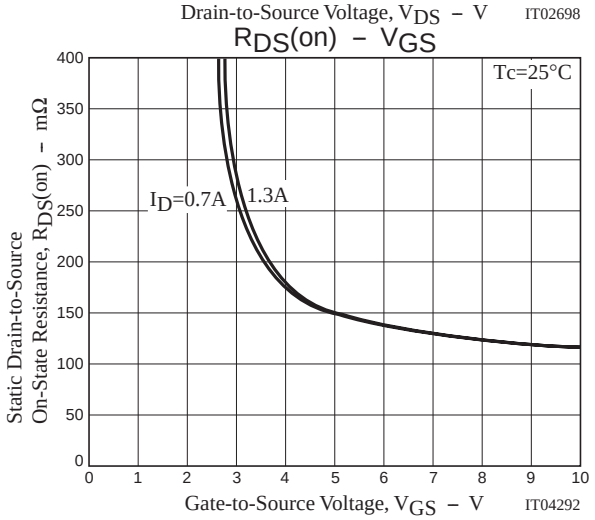
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V_{DS}=10V, f=1MHz		120		pF
Output Capacitance	Coss	V_{DS}=10V, f=1MHz		30		pF
Reverse Transfer Capacitance	Crss	V_{DS}=10V, f=1MHz		15		pF
Turn-ON Delay Time	t_{d}(on)	See specified Test Circuit.		6		ns
Rise Time	t_{r}	See specified Test Circuit.		5		ns
Turn-OFF Delay Time	t_{d}(off)	See specified Test Circuit.		17		ns
Fall Time	t_{f}	See specified Test Circuit.		5		ns
Total Gate Charge	Qg	V_{DS}=10V, V_{GS}=10V, I_{D}=2.5A		3.6		nC
Gate-to-Source Charge	Qgs	V_{DS}=10V, V_{GS}=10V, I_{D}=2.5A		0.6		nC
Gate-to-Drain “Miller” Charge	Qgd	V_{DS}=10V, V_{GS}=10V, I_{D}=2.5A		0.5		nC
Diode Forward Voltage	V_{SD}	I_{S}=2.5A, V_{GS}=0		0.9	1.2	V

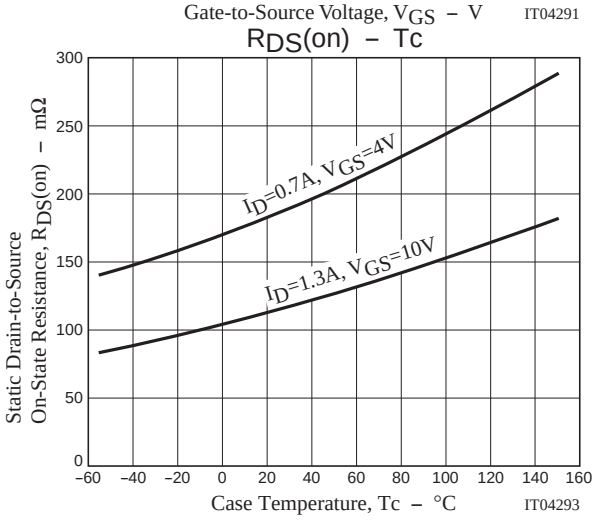
Switching Time Test Circuit

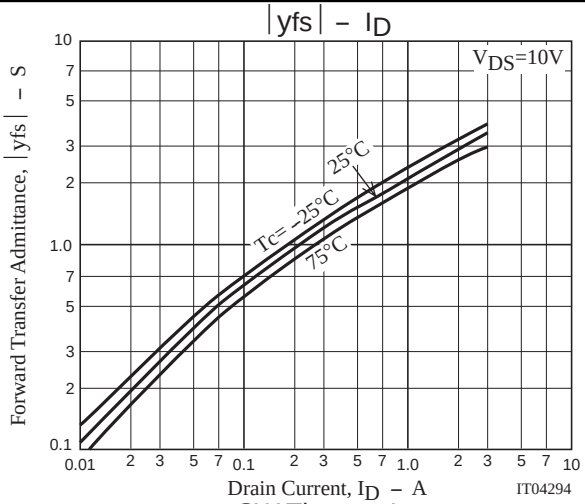


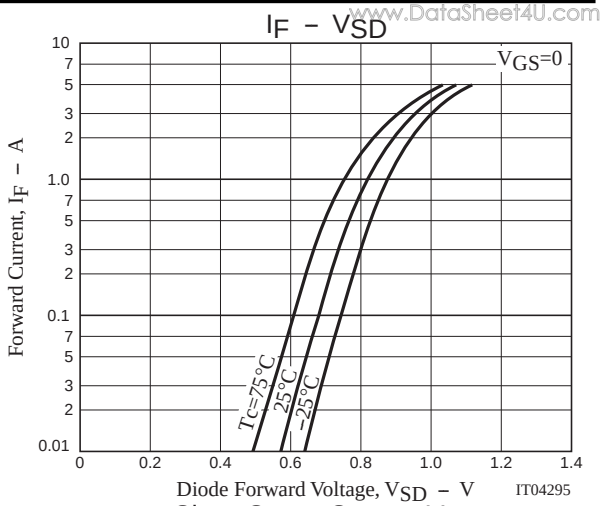


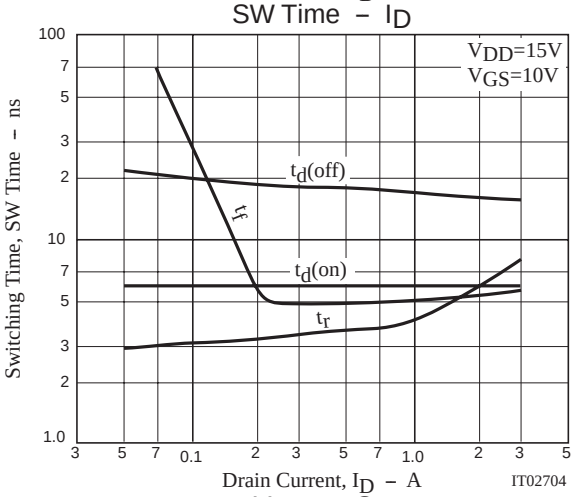


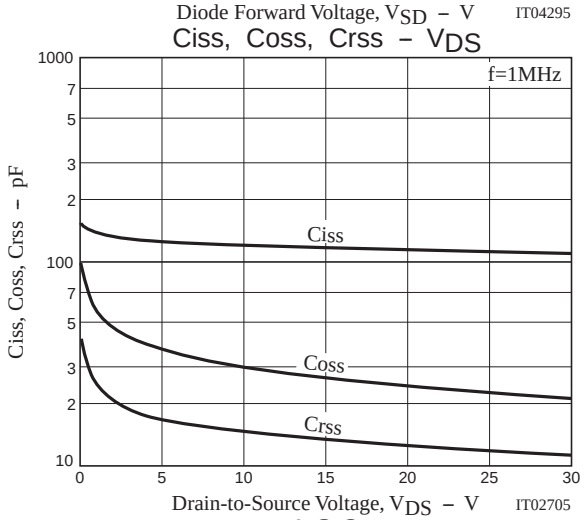


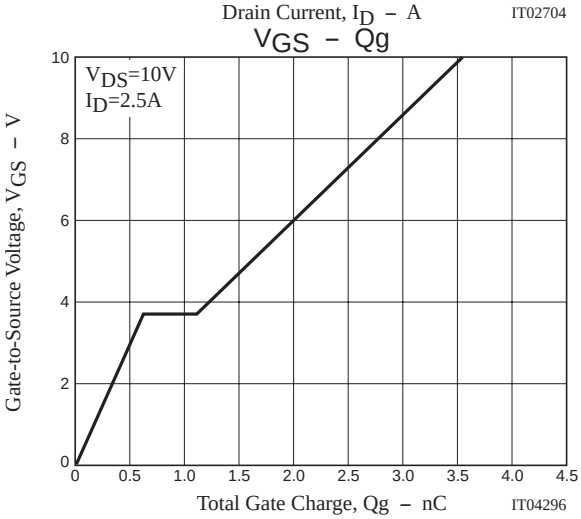


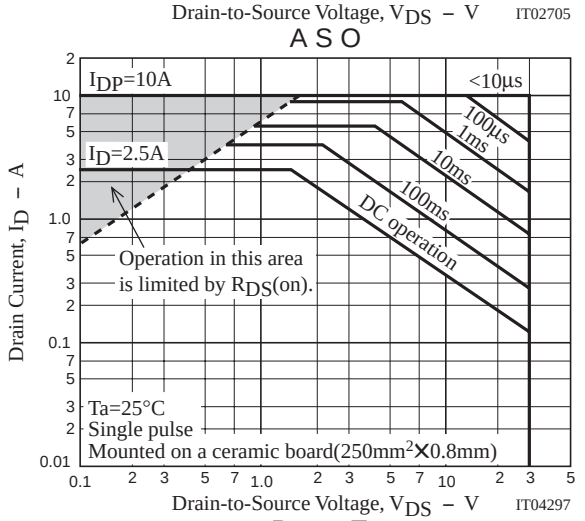


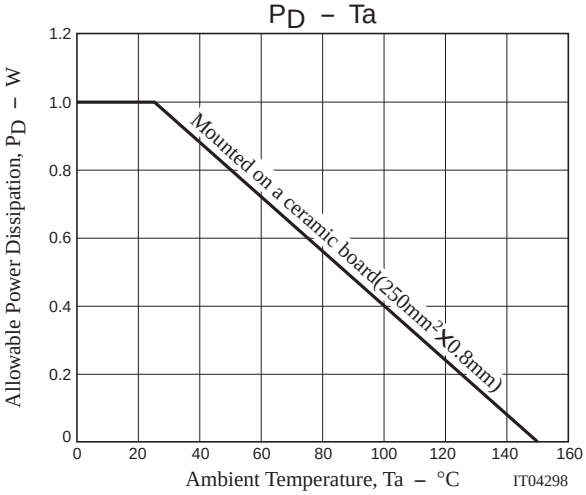


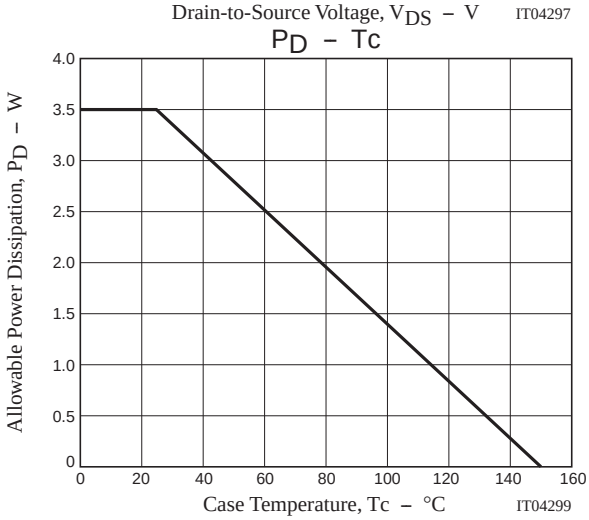












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