Ordering number:ENN5316A

N-Channel Silicon MOSFET

2SK2555

DC/DC Converter Applications

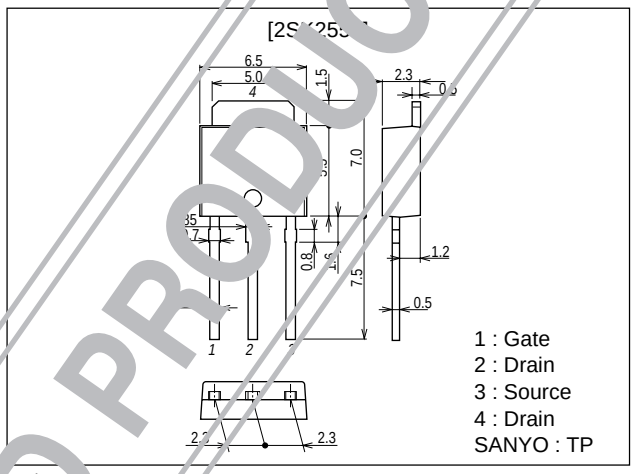
Features

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

Package Dimensions

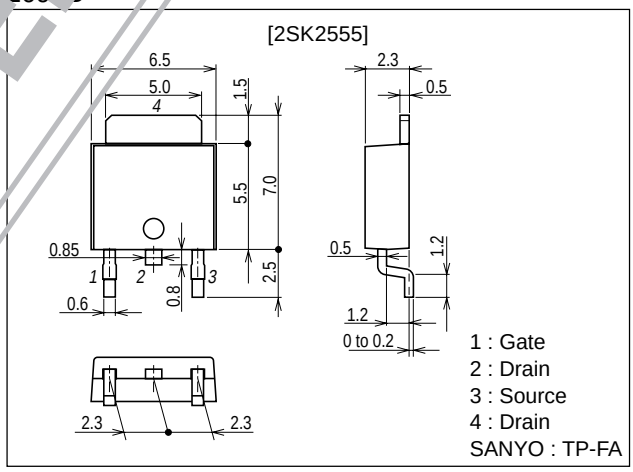
unit:mm

2083B



unit:mm

2083B



Specifications

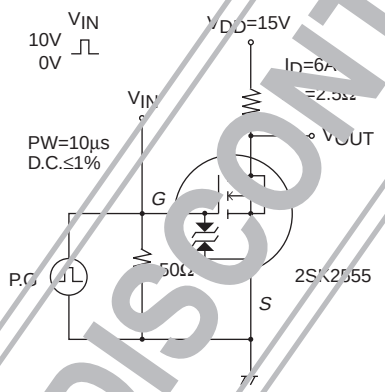
Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		30	V
Gate-to-Source Voltage	V_{GSS}		±25	V
Drain Current (DC)	I_D		12	A
Drain Current (Pulse)	I_{DP}	PW≤10µs, duty cycle≤1%	48	A
Allowable Power Dissipation	P_D		1	W
		Tc=25˚C	30	W
Channel Temperature	Tch		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

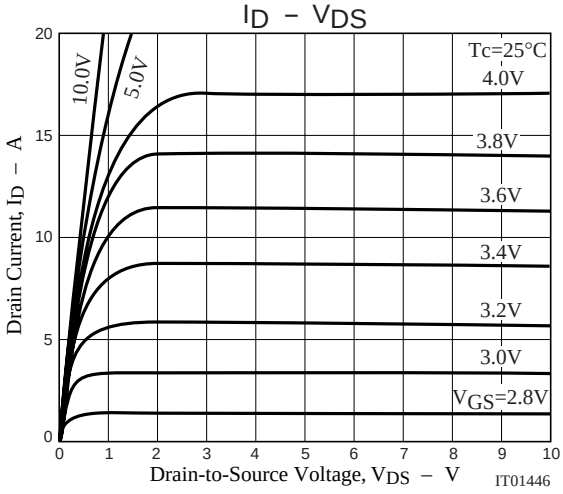
Electrical Characteristics at Ta = 25˚C

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			100	µA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0			±10	µA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=10V, I_D=1mA	1.0		2.5	V
Forward Transfer Admittance	| yfs |	V_{DS}=10V, I_D=6A	6	8		S
Static Drain-to-Source On-State Resistance	$R_{DS}(on)1$	I_D=6A, V_{GS}=10V		36	46	mΩ
	$R_{DS}(on)2$	I_D=4A, V_{GS}=4V		58	78	mΩ
Input Capacitance	Ciss	V_{DS}=10V, f=1MHz		650		pF
Output Capacitance	Coss	V_{DS}=10V, f=1MHz		480		pF
Reverse Transfer Capacitance	Crss	V_{DS}=10V, f=1MHz		90		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		15		ns
Rise Time	t_r	See specified Test Circuit		170		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit		50		ns
Fall Time	t_f	See specified Test Circuit		45		ns
Total Gate Charge	Qg	V_{DS}=10V, V_{GS}=10V, I_D=1A		20		nC
Gate-to-Source Charge	Qgs	V_{DS}=10V, V_{GS}=10V, I_D=1A		3		nC
Gate-to-Drain "Miller" Charge	Qgd	V_{DS}=10V, V_{GS}=10V, I_D=1A		6		nC
Diode Forward Voltage	V_{SD}	I_D=6A, V_{GS}=0		1.0	1.2	V

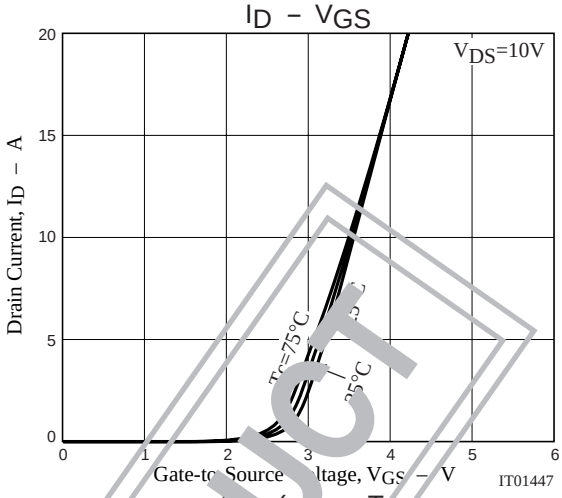
Switching Time Test Circuit



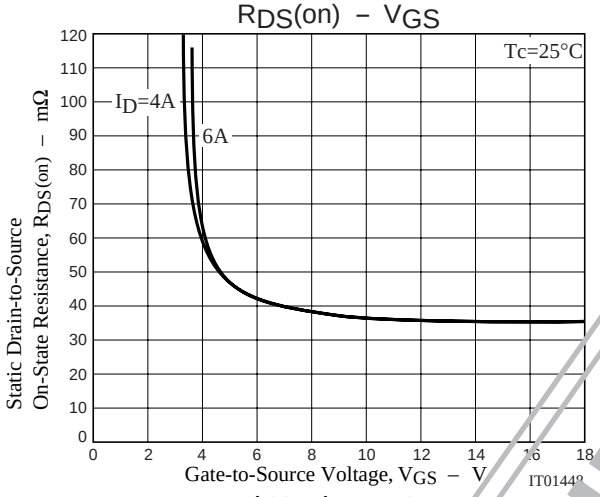
I_D – V_{DS}



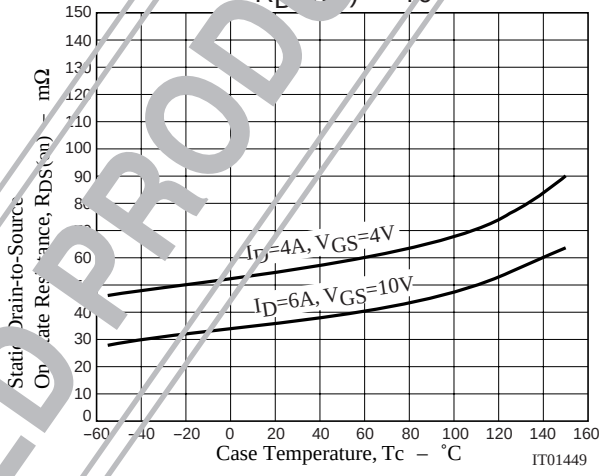
I_D – V_{GS}



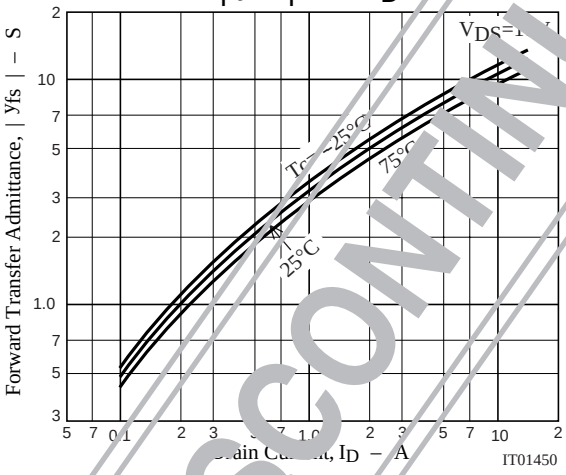
$R_{DS(on)}$ – V_{GS}



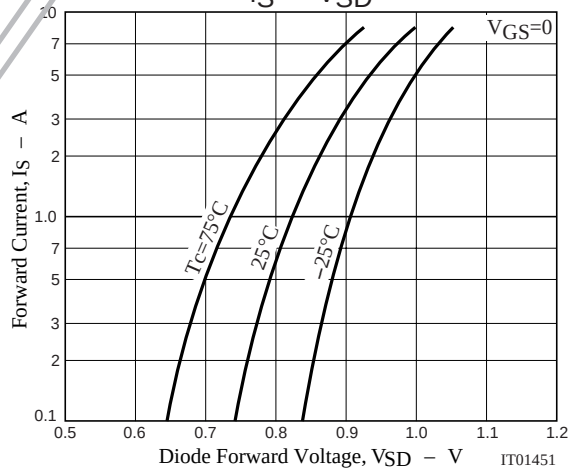
$R_{DS(on)}$ – Tc



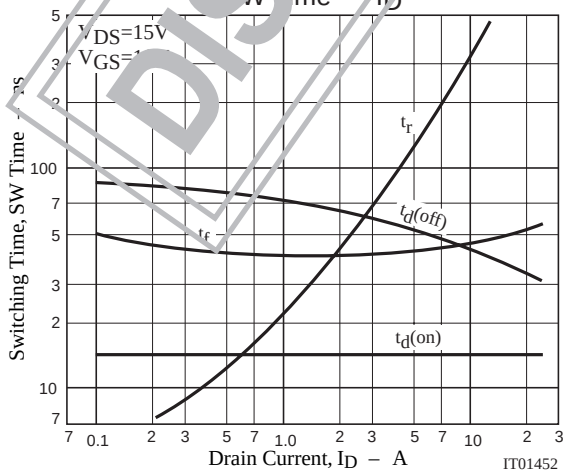
| y_{fs} | – I_D



I_S – V_{SD}



Switching Time – I_D



Ciss, Coss, Crss – V_{DS}