

2SK2671  
( F5F90HVX2 )

900V 5A

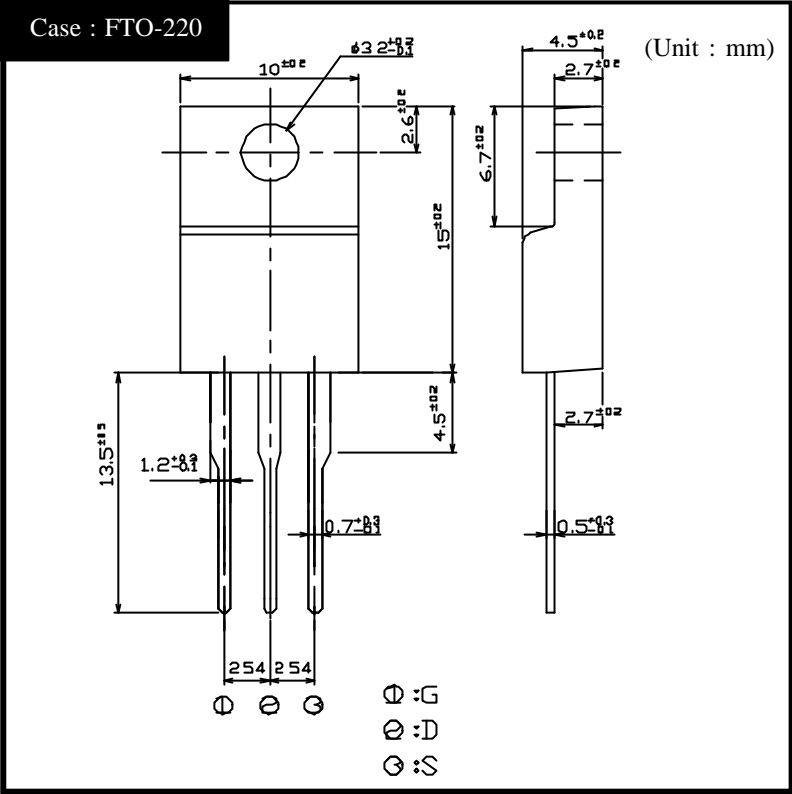
FEATURES

- Input capacitance (Ciss) is small.
- Especially, input capacitance at 0 bias is small.
- The static Rds(on) is small.
- The switching time is fast.
- Avalanche resistance guaranteed.

APPLICATION

- Switching power supply of AC 240V input
- High voltage power supply
- Inverter

OUTLINE DIMENSIONS



RATINGS

Absolute Maximum Ratings (Tc = 25 )

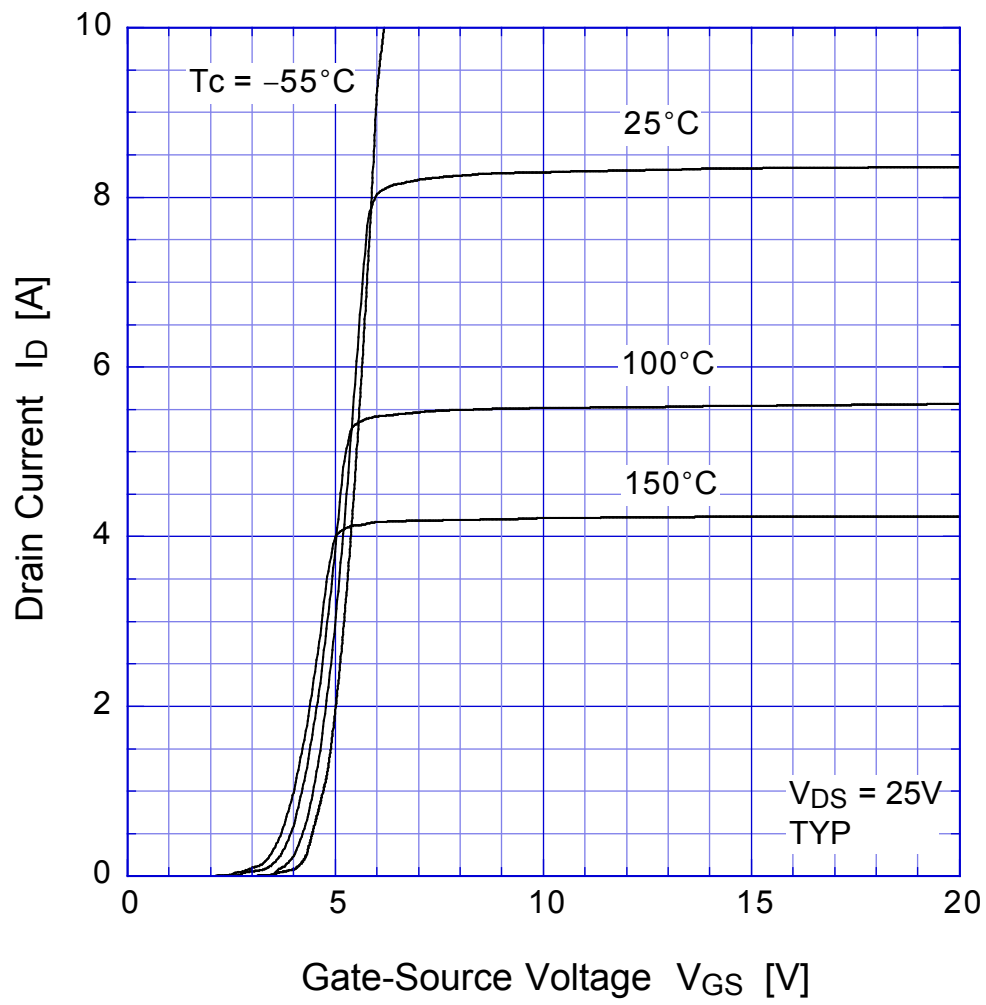
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T <sub>stg</sub>		-55 ~ 150	
Channel Temperature	T <sub>ch</sub>		150	
Drain-Source Voltage	V <sub>DSS</sub>		900	V
Gate-Source Voltage	V <sub>GSS</sub>		± 30	
Continuous Drain Current (DC )	I <sub>D</sub>		5	A
Continuous Drain Current (Peak)	I <sub>DP</sub>	Pulse width 10 μ s, Duty cycle 1/100	10	
Continuous Source Current (DC )	I <sub>S</sub>		5	
Total Power Dissipation	P <sub>T</sub>		40	W
Repetitive Avalanche Current	I <sub>AR</sub>	T <sub>ch</sub> = 150	5	A
Single Avalanche Energy	E <sub>AS</sub>	T <sub>ch</sub> = 25	100	mJ
Repetitive Avalanche Energy	E <sub>AR</sub>	T <sub>ch</sub> = 25	10	
Dielectric Strength	V <sub>dis</sub>	Terminals to case, AC 1 minute	2	kV
Mounting Torque	TOR	(Recommended torque 0.3 N·m )	0.5	N·m

●Electrical Characteristics  $T_c = 25^{\circ}\text{C}$

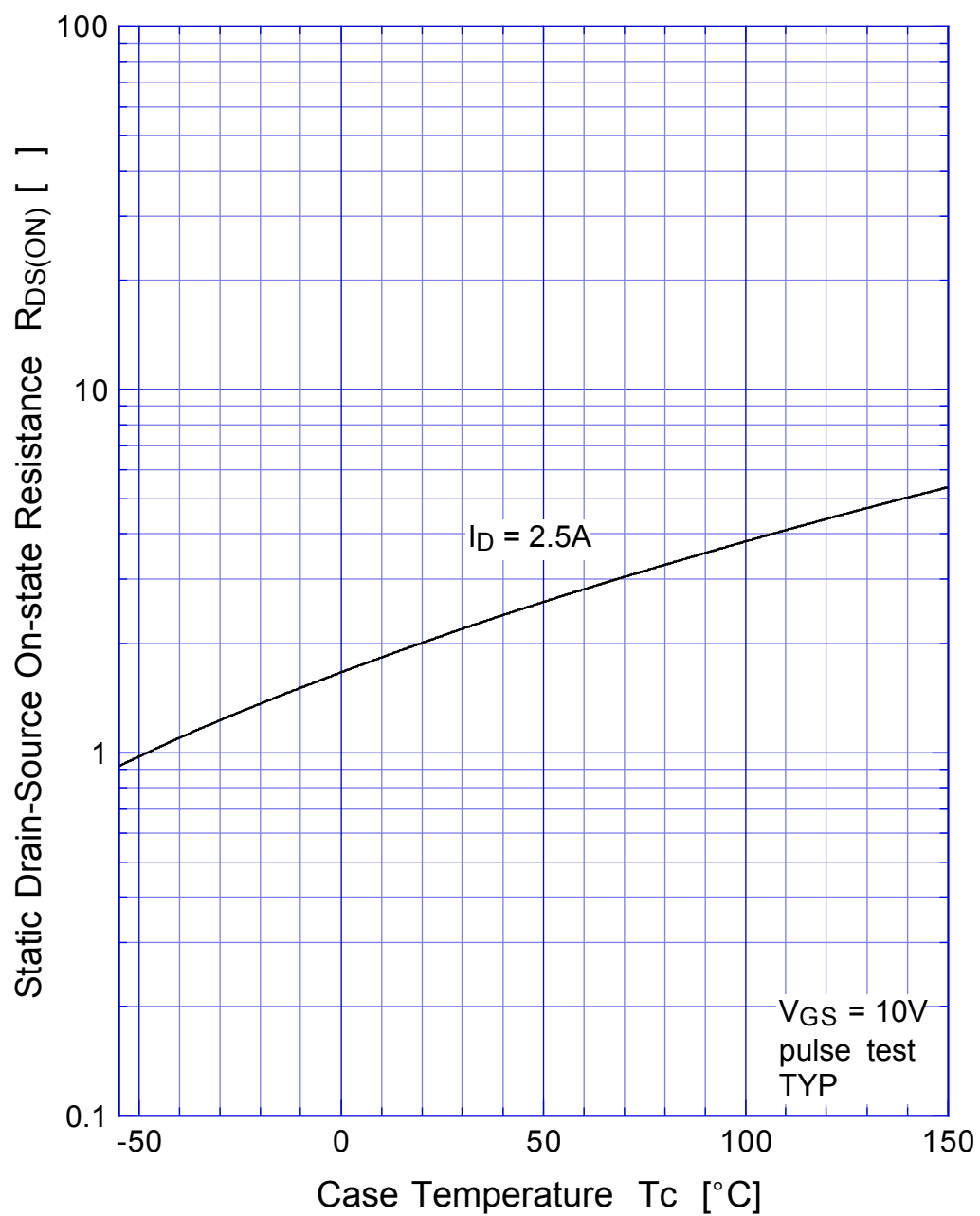
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1\text{mA}$ , $V_{GS} = 0\text{V}$	900			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 900\text{V}$ , $V_{GS} = 0\text{V}$			250	$\mu\text{A}$
Gate-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 30\text{V}$ , $V_{DS} = 0\text{V}$			$\pm 0.1$	
Forward Transconductance	$g_{fs}$	$I_D = 2.5\text{A}$ , $V_{DS} = 10\text{V}$	2.4	4.0		S
Static Drain-Source On-state Resistance	$R_{DS(ON)}$	$I_D = 2.5\text{A}$ , $V_{GS} = 10\text{V}$		2.1	2.8	$\Omega$
Gate Threshold Voltage	$V_{TH}$	$I_D = 1\text{mA}$ , $V_{DS} = 10\text{V}$	2.5	3.0	3.5	V
Source-Drain Diode Forward Voltage	$V_{SD}$	$I_S = 2.5\text{A}$ , $V_{GS} = 0\text{V}$			1.5	
Thermal Resistance	$\theta_{jc}$	junction to case			3.12	$^{\circ}\text{C/W}$
Total Gate Charge	$Q_g$	$V_{DD} = 400\text{V}$ , $V_{GS} = 10\text{V}$ , $I_D = 5\text{A}$		45		nC
Input Capacitance	$C_{iss}$	$V_{DS} = 25\text{V}$ , $V_{GS} = 0\text{V}$ , $f = 1\text{MHz}$		1140		pF
Reverse Transfer Capacitance	$C_{rss}$			23		
Output Capacitance	$C_{oss}$			105		
Turn-On Time	$t_{on}$	$I_D = 2.5\text{A}$ , $R_L = 60\Omega$ , $V_{GS} = 10\text{V}$		55	100	ns
Turn-Off Time	$t_{off}$			210	350	

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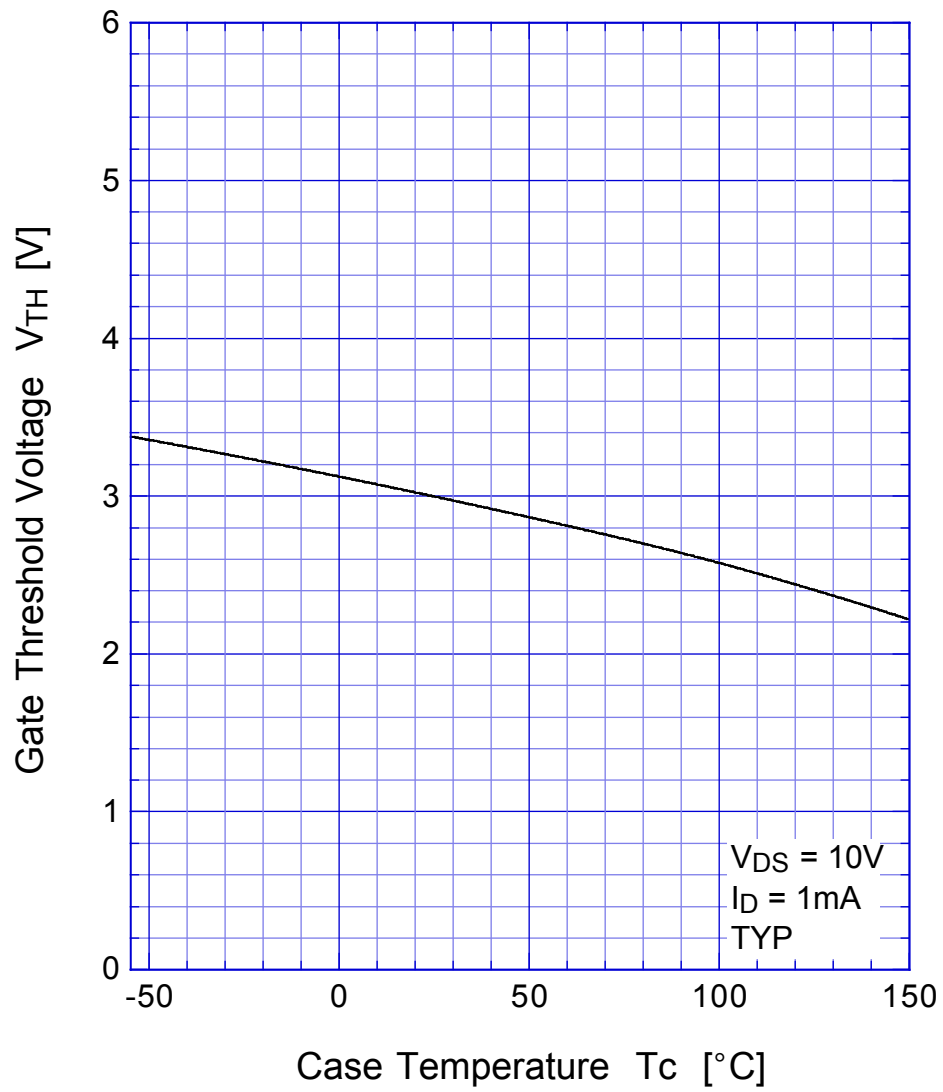
Transfer Characteristics



## 2SK2671 Static Drain-Source On-state Resistance

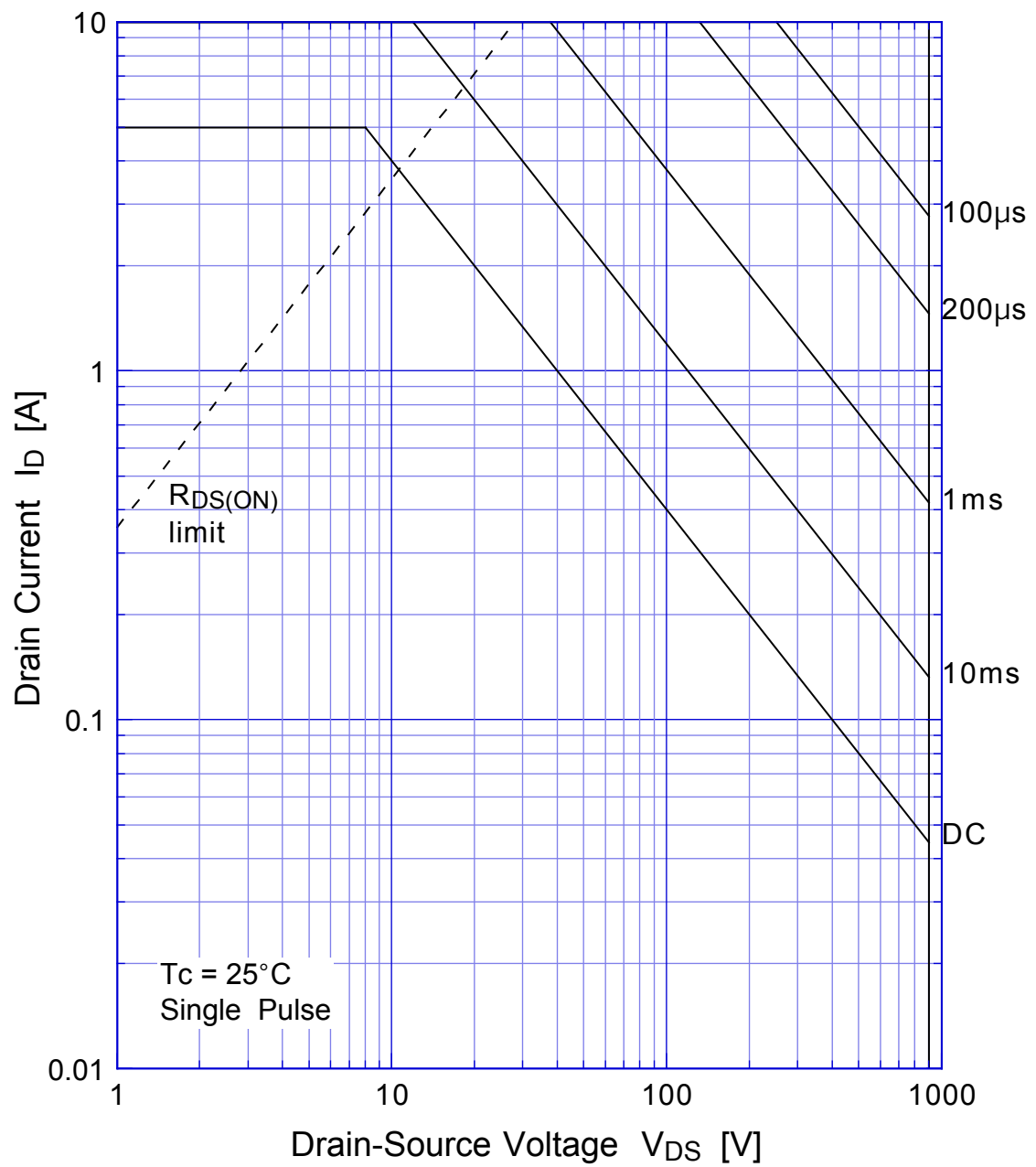


## 2SK2671 Gate Threshold Voltage

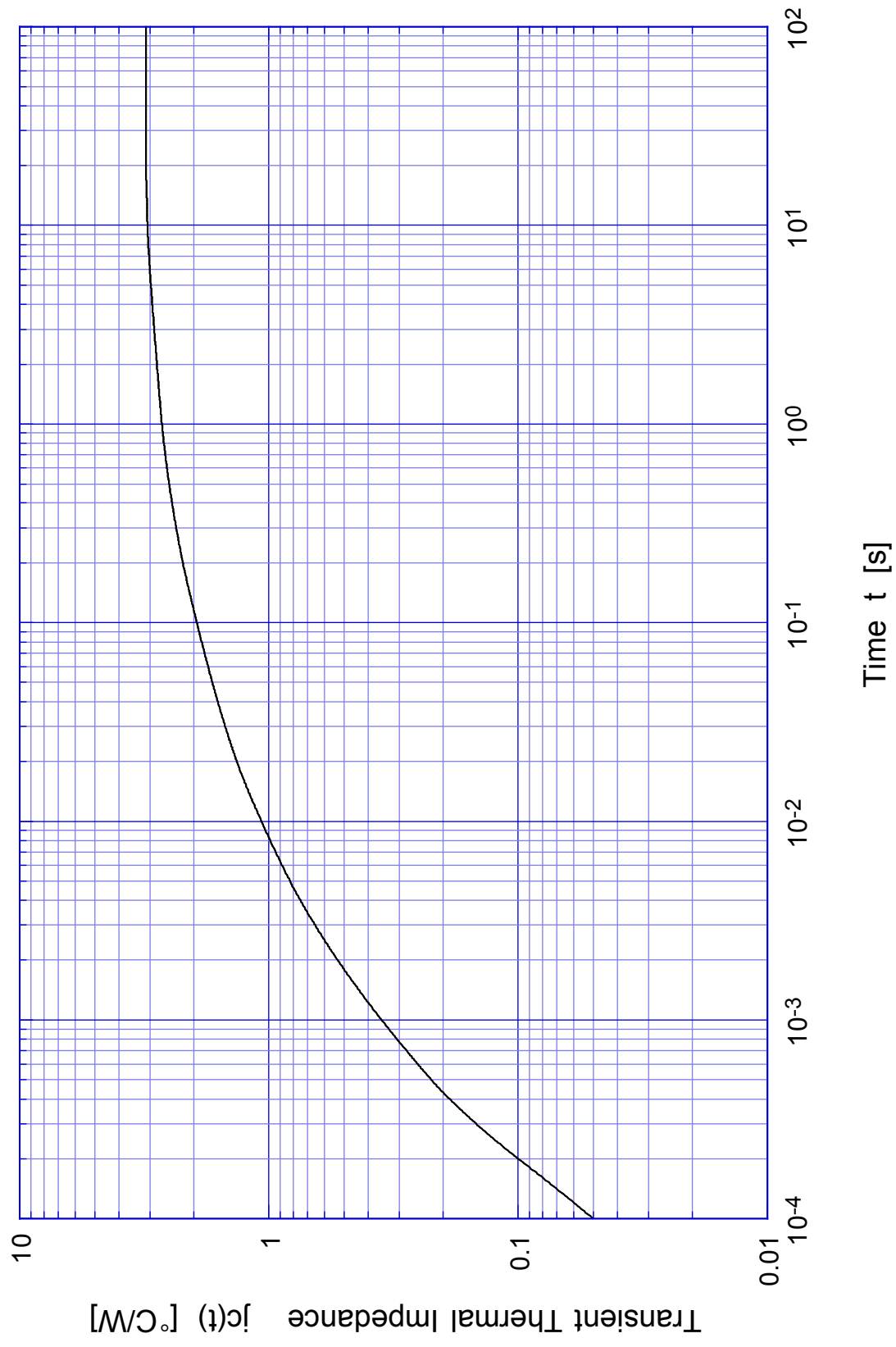


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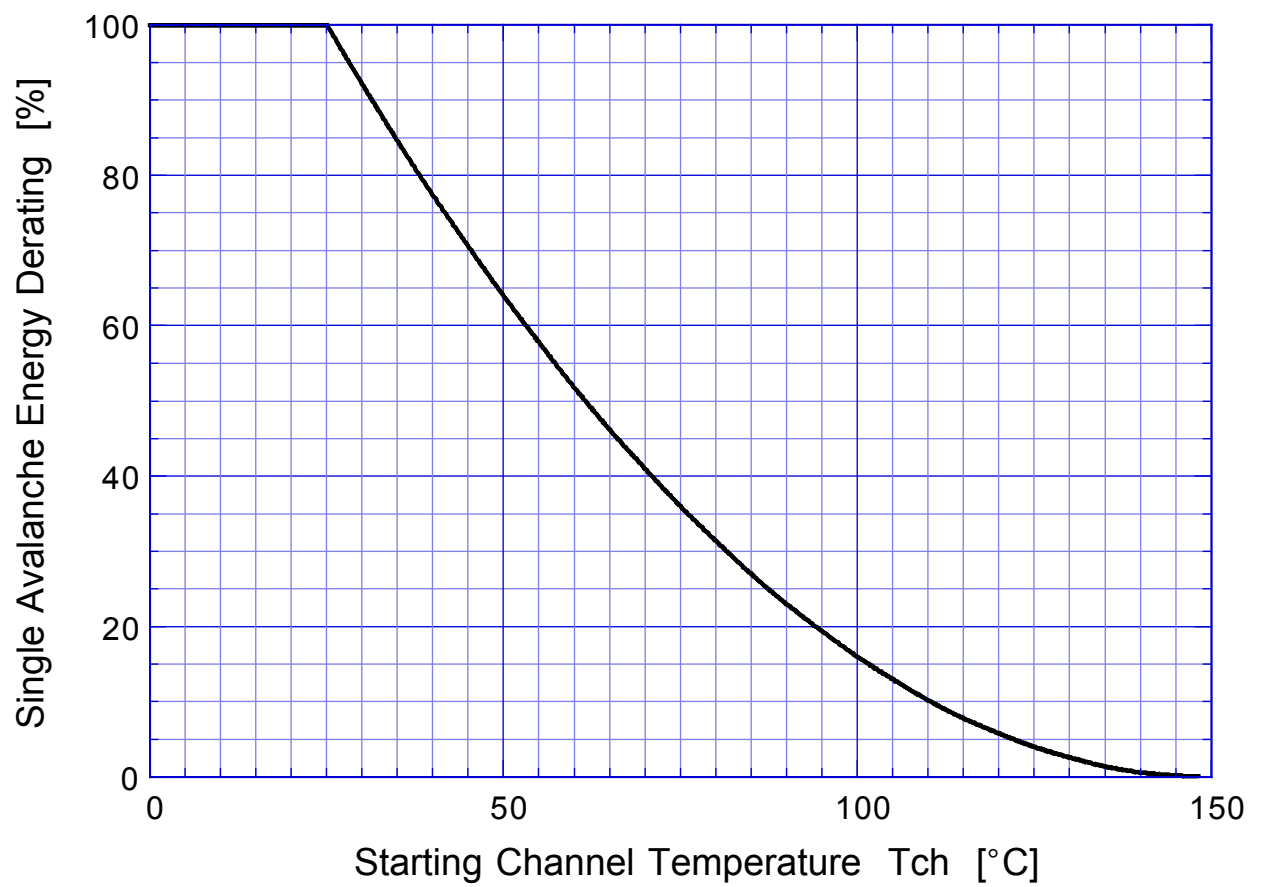
Safe Operating Area



# 2SK2671      Transient Thermal Impedance



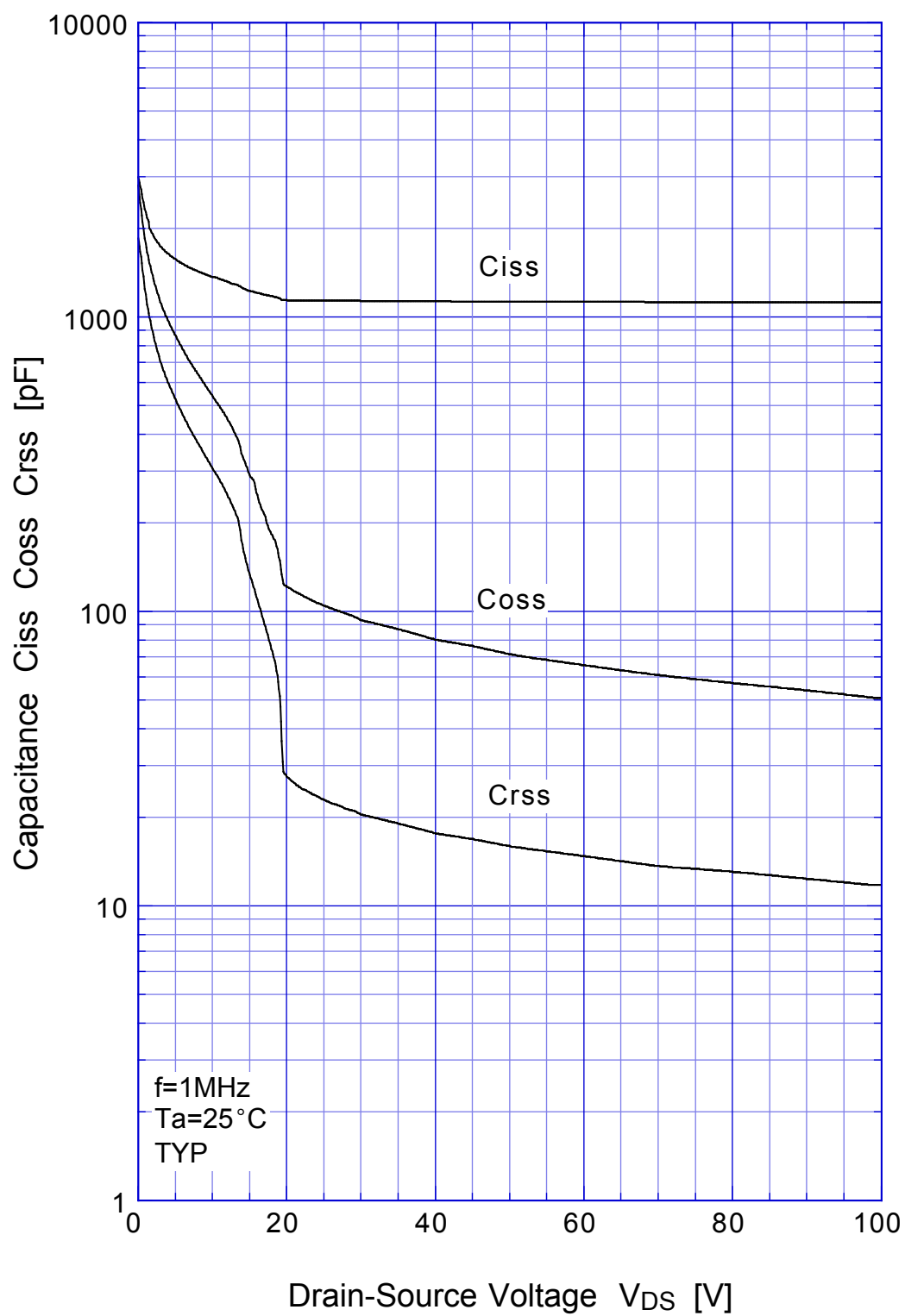
## 2SK2671 Single Avalanche Energy Derating



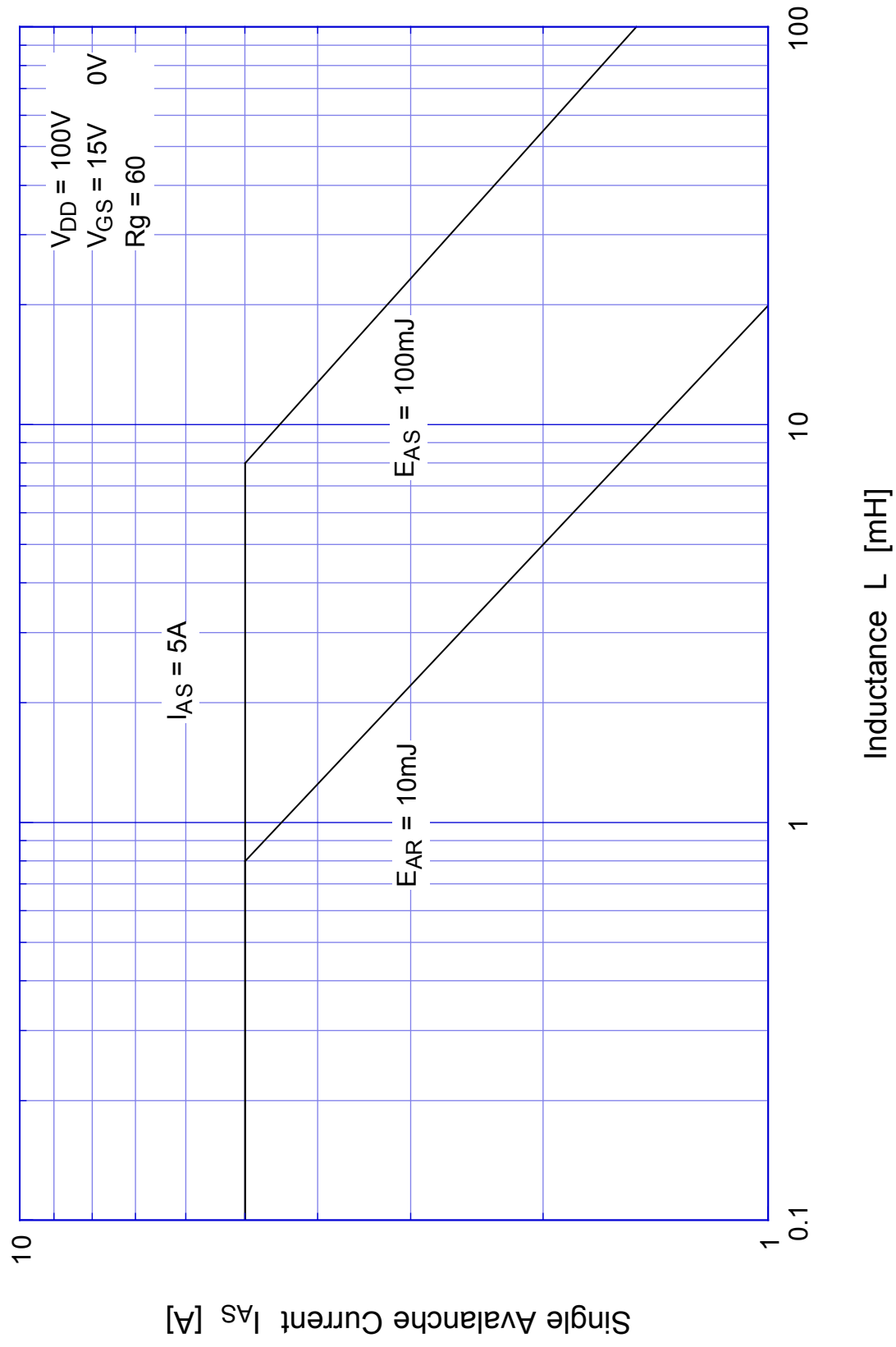


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Capacitance

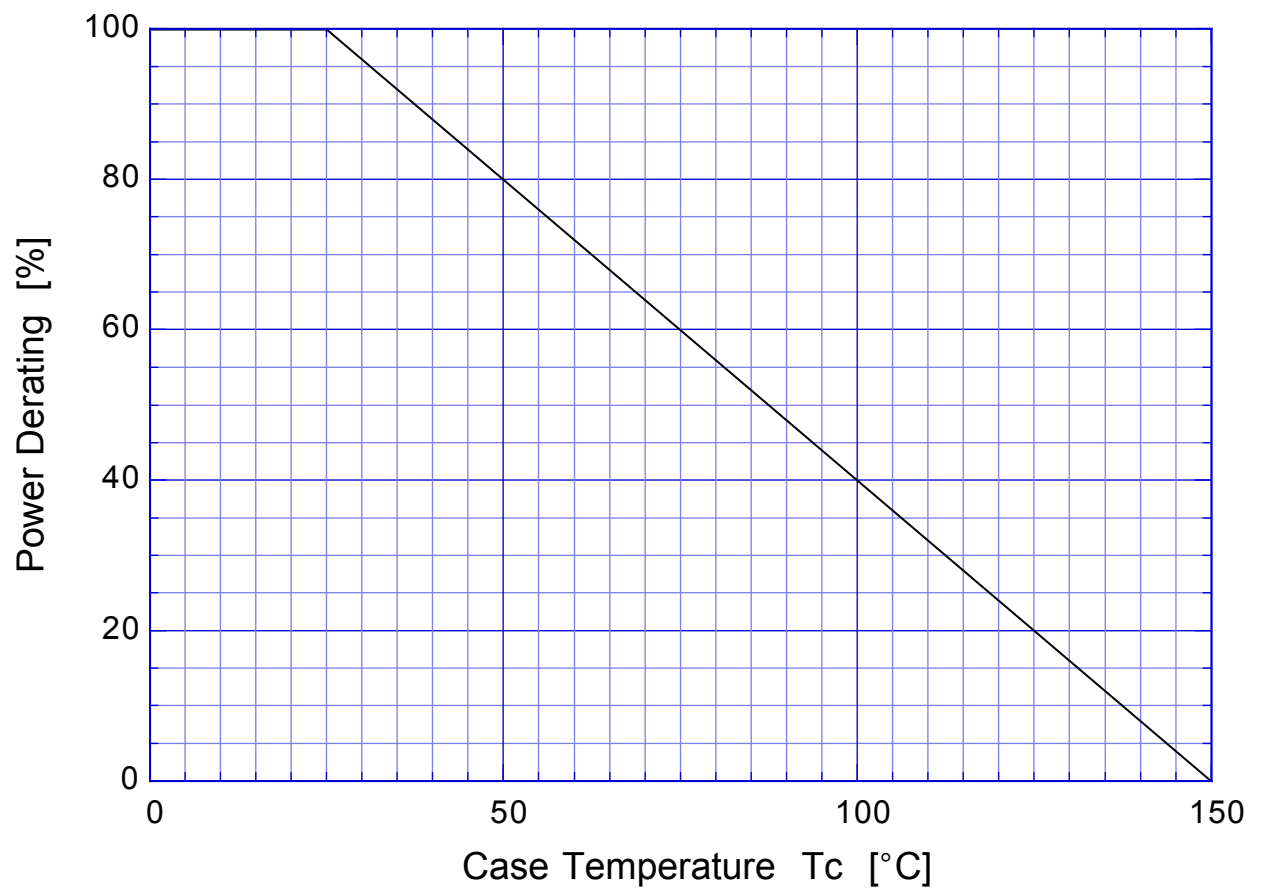


# 2SK2671 Single Avalanche Current - Inductive Load



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Power Derating



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## Gate Charge Characteristics

