

2SK2669
(F5V90HVX2)

900V 5A

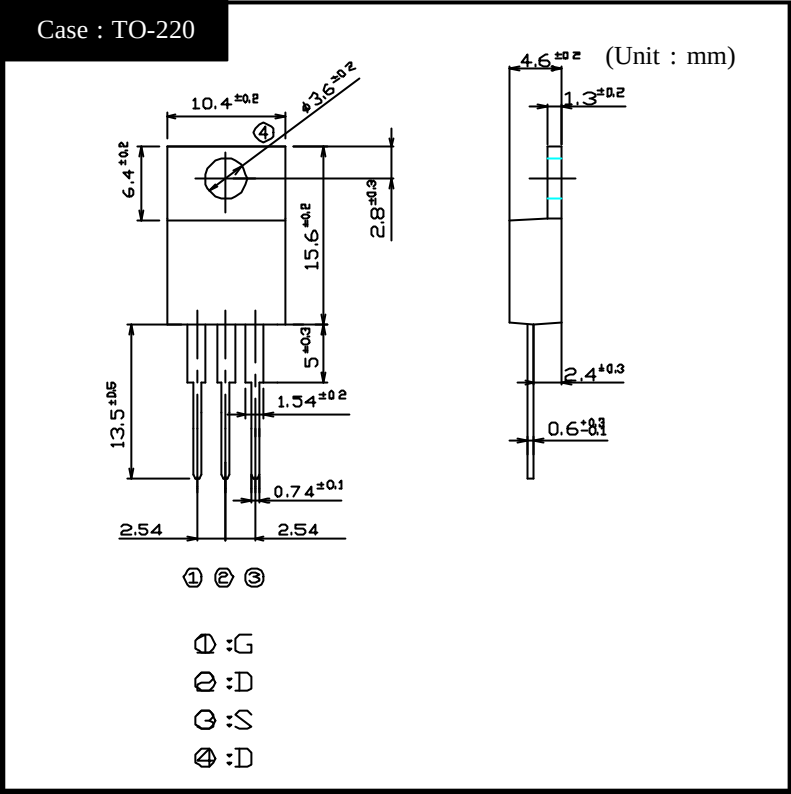
FEATURES

- 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 $T_c = 25^\circ\text{C}$

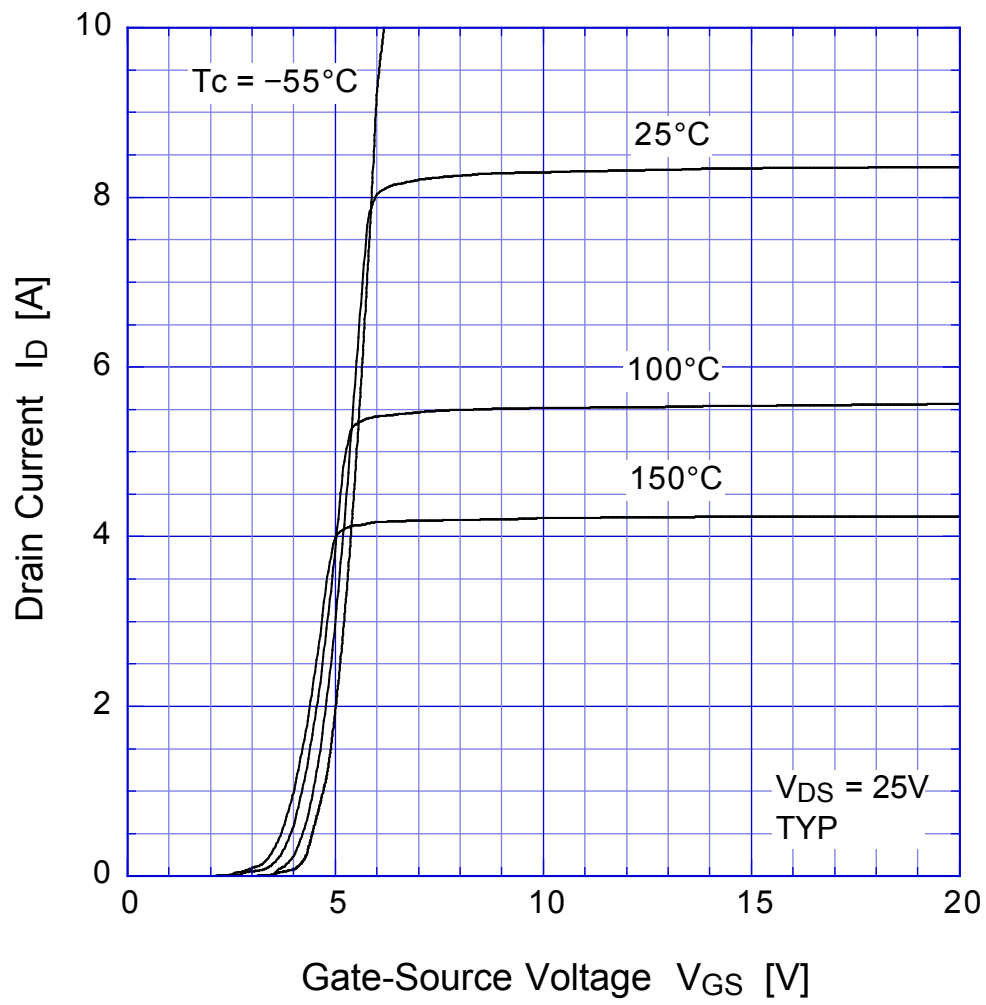
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T_{stg}		-55~150	$^\circ\text{C}$
Channel Temperature	T_{ch}		150	
Drain-Source Voltage	V_{DSS}		900	V
Gate-Source Voltage	V_{GSS}		± 30	
Continuous Drain Current (DC)	I_D		5	A
Continuous Drain Current (Peak)	I_{DP}	Pulse width $\leq 10 \mu\text{s}$, Duty cycle $\leq 1/100$	10	
Continuous Source Current (DC)	I_S		5	
Total Power Dissipation	P_T		60	W
Repetitive Avalanche Current	I_{AR}	$T_{ch} = 150^\circ\text{C}$	5	A
Single Avalanche Energy	E_{AS}	$T_{ch} = 25^\circ\text{C}$	100	
Repetitive Avalanche Energy	E_{AR}	$T_{ch} = 25^\circ\text{C}$	10	
Mounting Torque	TOR	(Recommended torque : 0.3 N·m)	0.5	N·m

●Electrical Characteristics T_c = 25°C

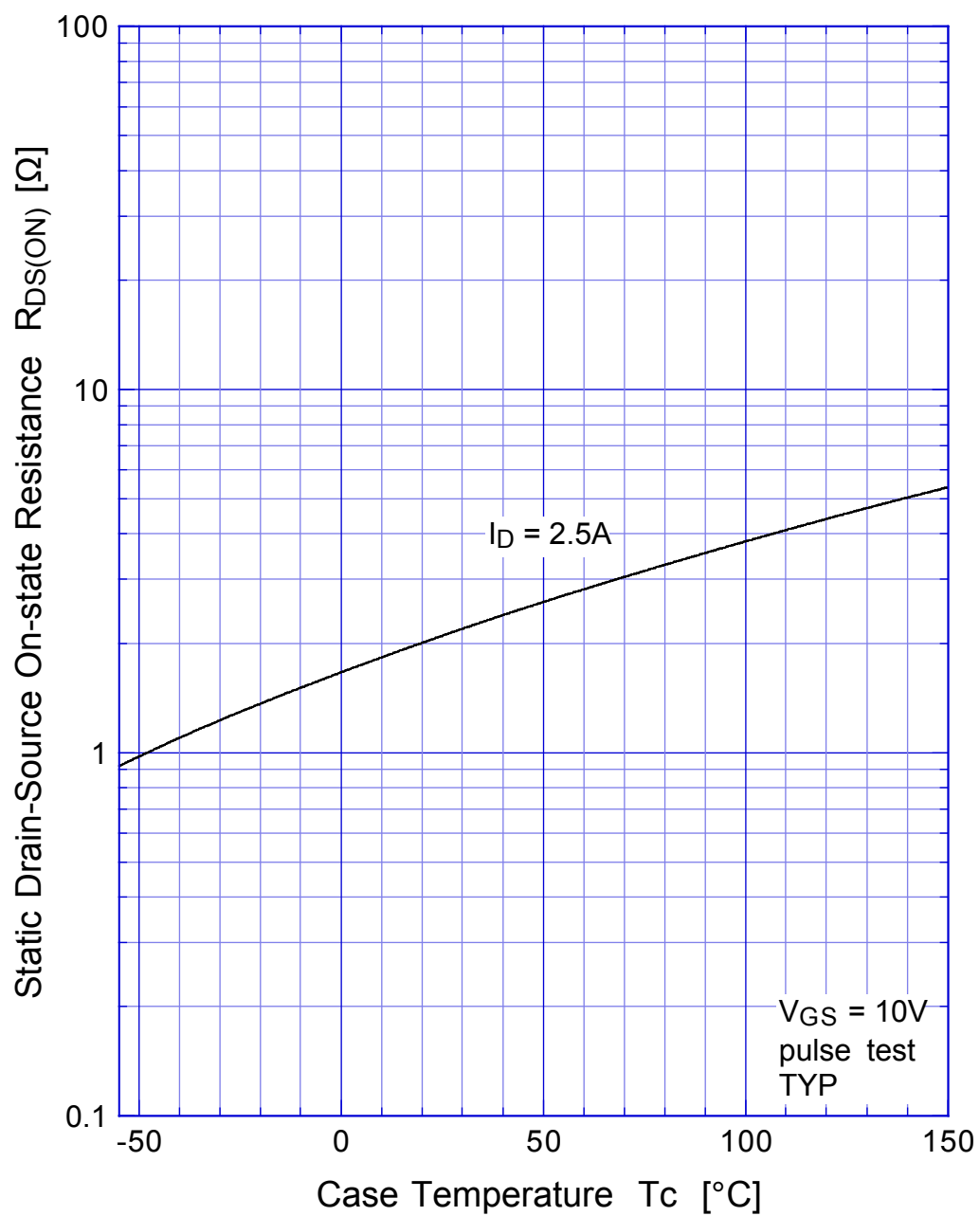
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	I _D = 1mA, V _{GS} = 0V	900			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 900V, V _{GS} = 0V			250	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±30V, V _{DS} = 0V			±0.1	
Forward Transconductance	g _{fs}	I _D = 2.5A, V _{DS} = 10V	2.4	4.0		S
Static Drain-Source On-state Resistance	R _{DS(ON)}	I _D = 2.5A, V _{GS} = 10V		2.1	2.8	Ω
Gate Threshold Voltage	V _{TH}	I _D = 1mA, V _{DS} = 10V	2.5	3.0	3.5	V
Source-Drain Diode Forward Voltage	V _{SD}	I _S = 2.5A, V _{GS} = 0V			1.5	
Thermal Resistance	θ _{jc}	junction to case			2.08	°C/W
Total Gate Charge	Q _g	V _{GS} = 10V, I _D = 5A, V _{DD} = 400V		45		nC
Input Capacitance	C _{iss}	V _{DS} = 25V, V _{GS} = 0V, f = 1MHz		1140		pF
Reverse Transfer Capacitance	C _{rss}			23		
Output Capacitance	C _{oss}			105		
Turn-On Time	t _{on}	I _D = 2.5A, V _{GS} = 10V, R _L = 60Ω		55	100	ns
Turn-Off Time	t _{off}			210	350	

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Transfer Characteristics

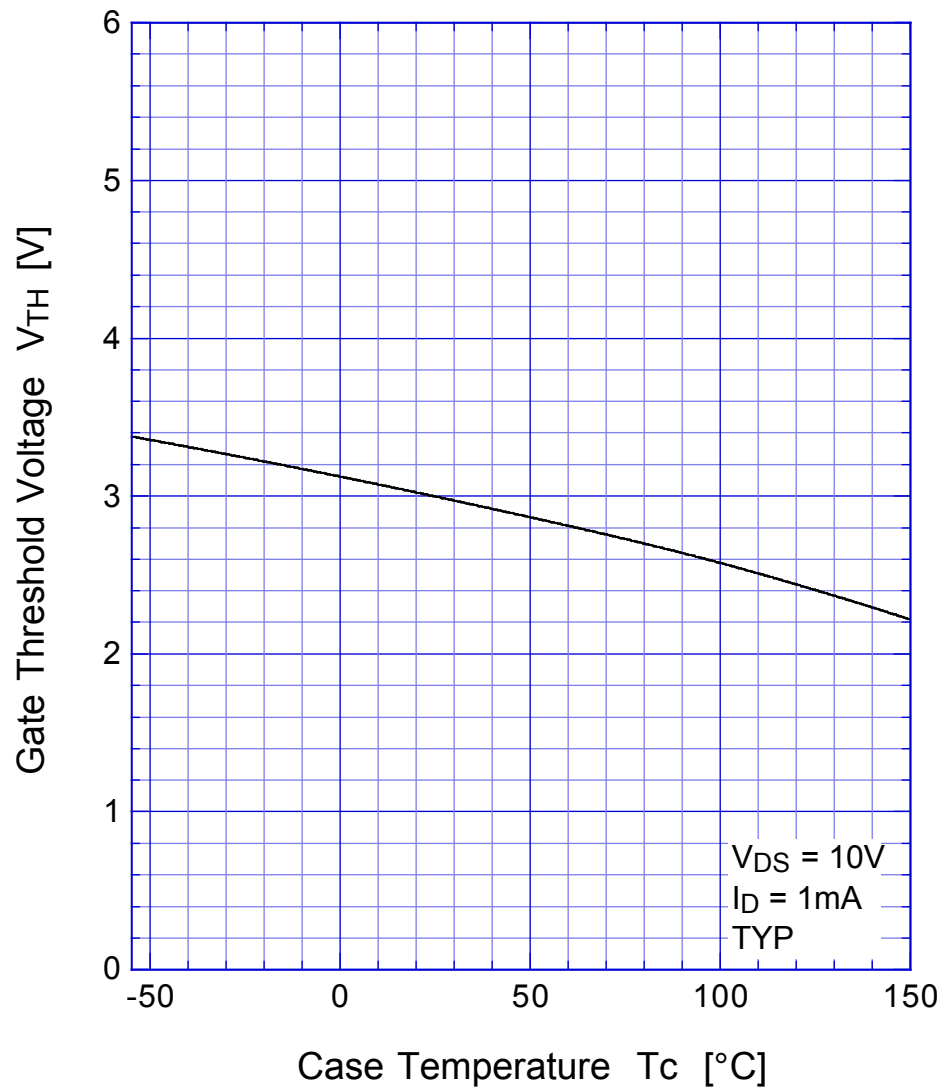


2SK2669 Static Drain-Source On-state Resistance



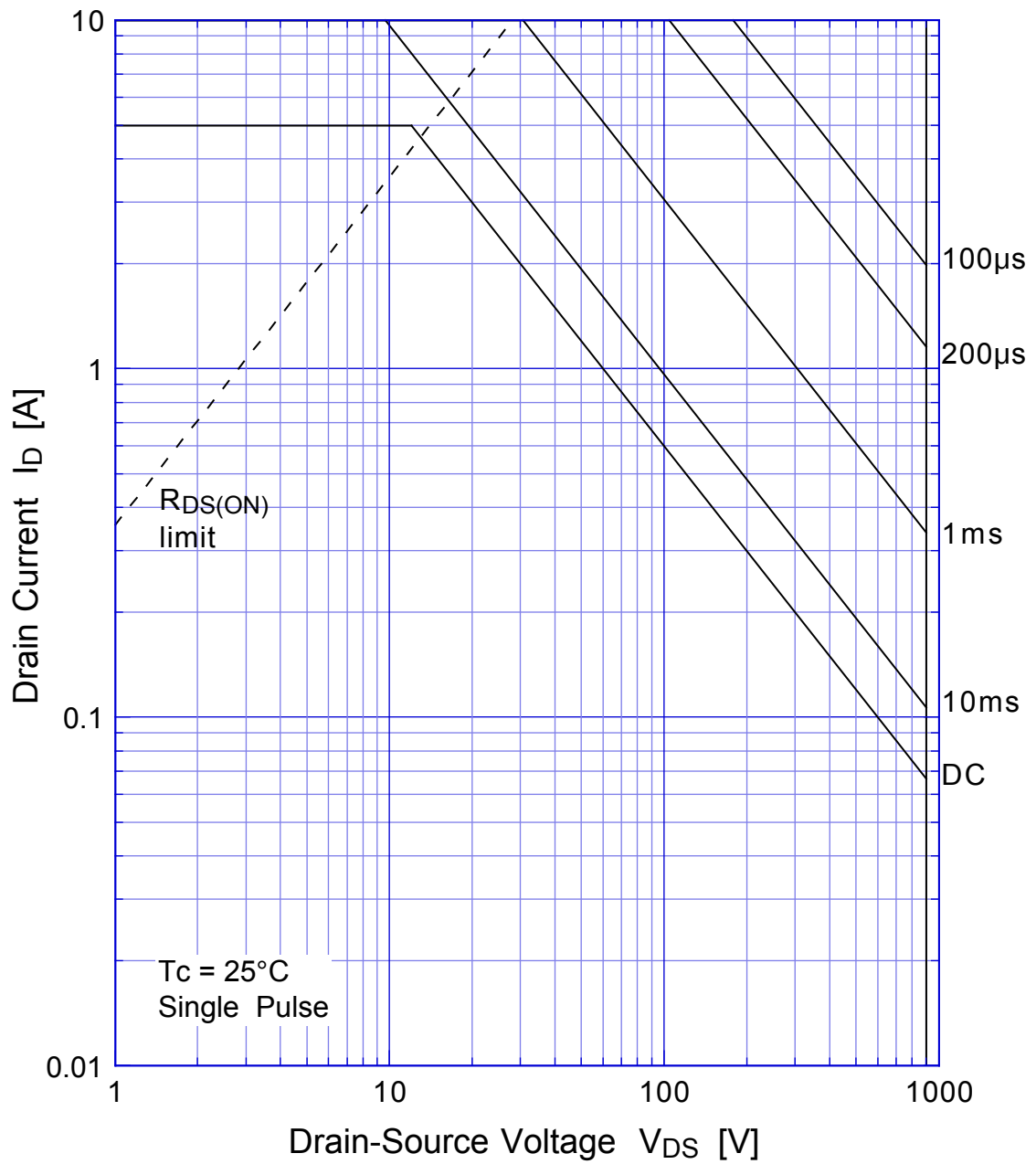
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Gate Threshold Voltage

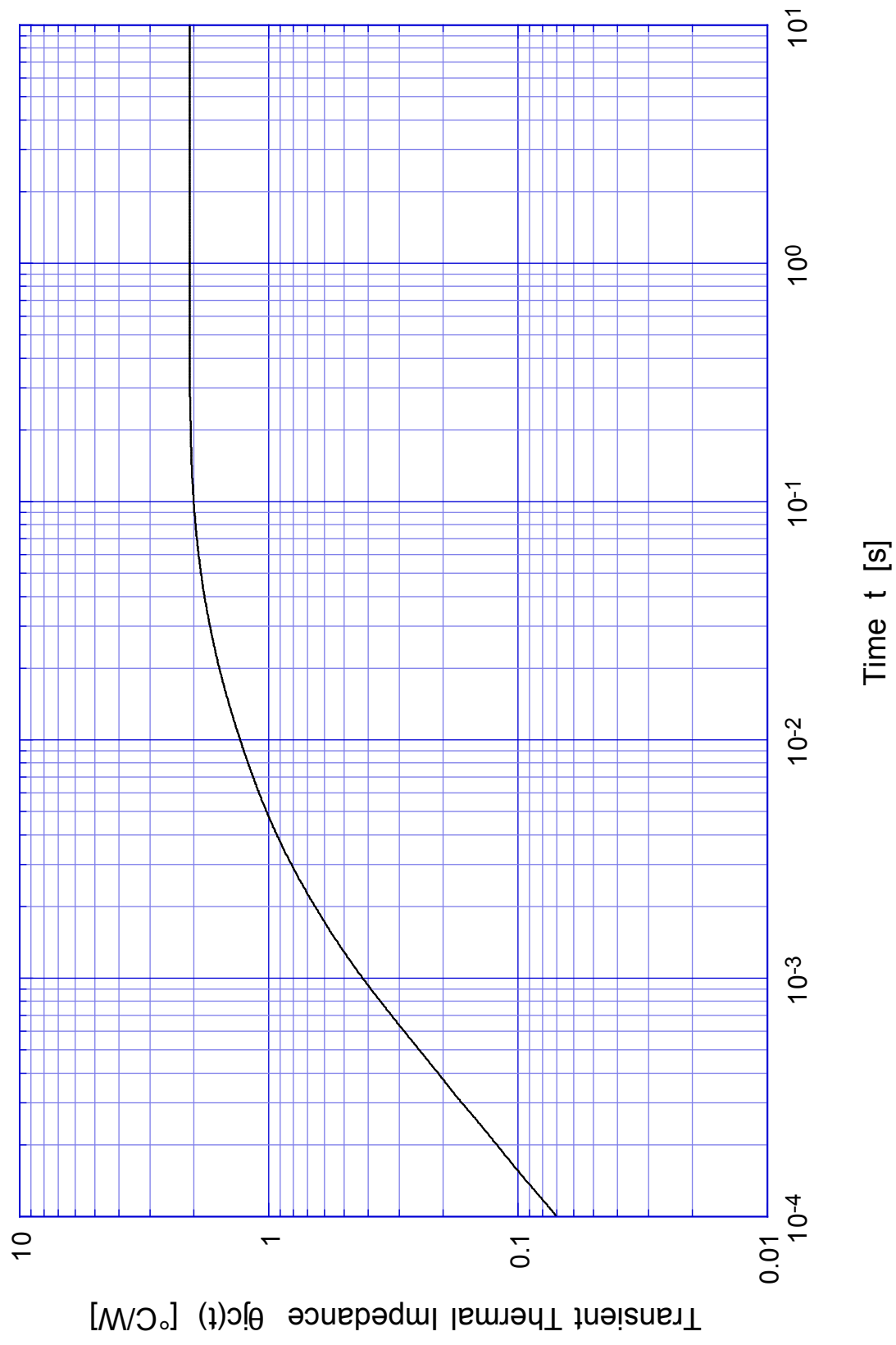


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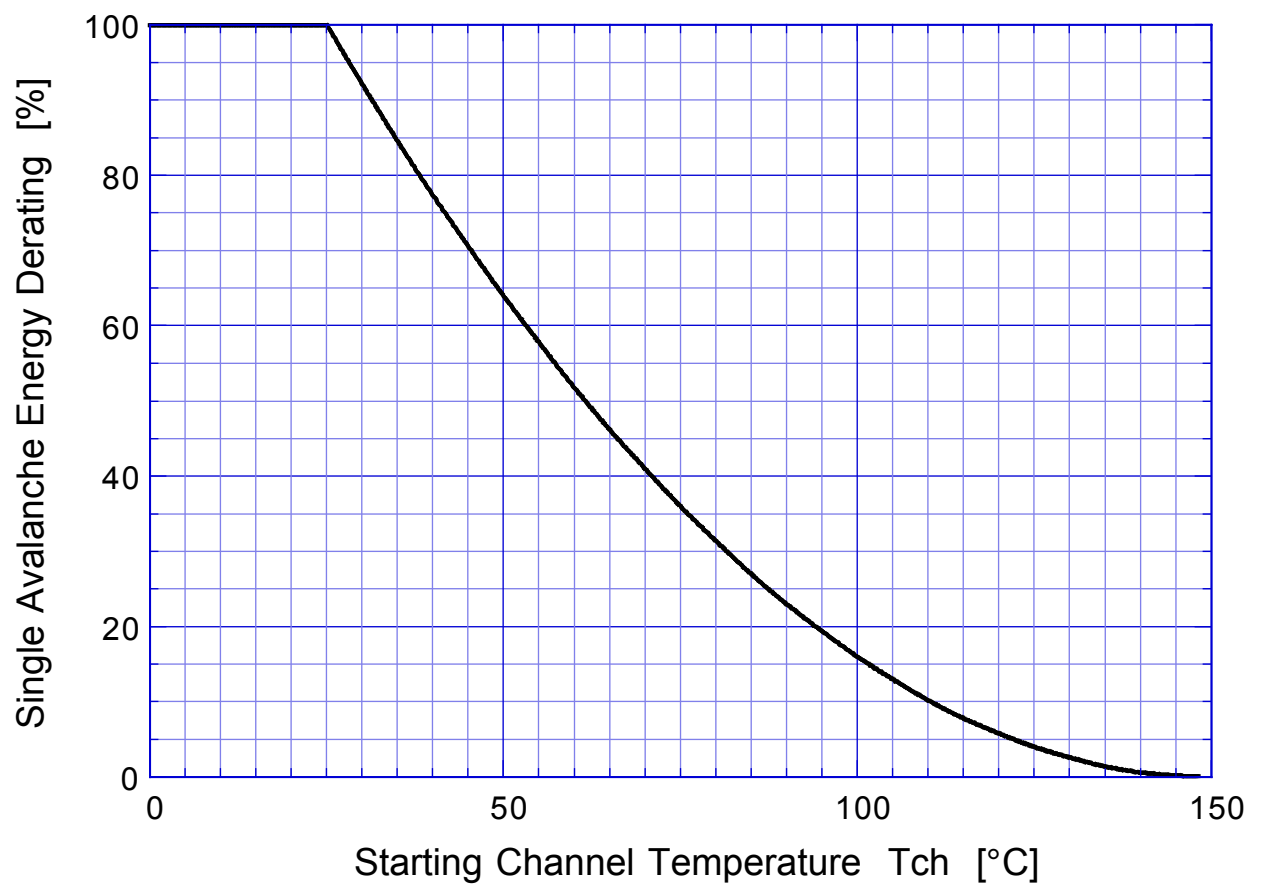
Safe Operating Area



2SK2669 Transient Thermal Impedance

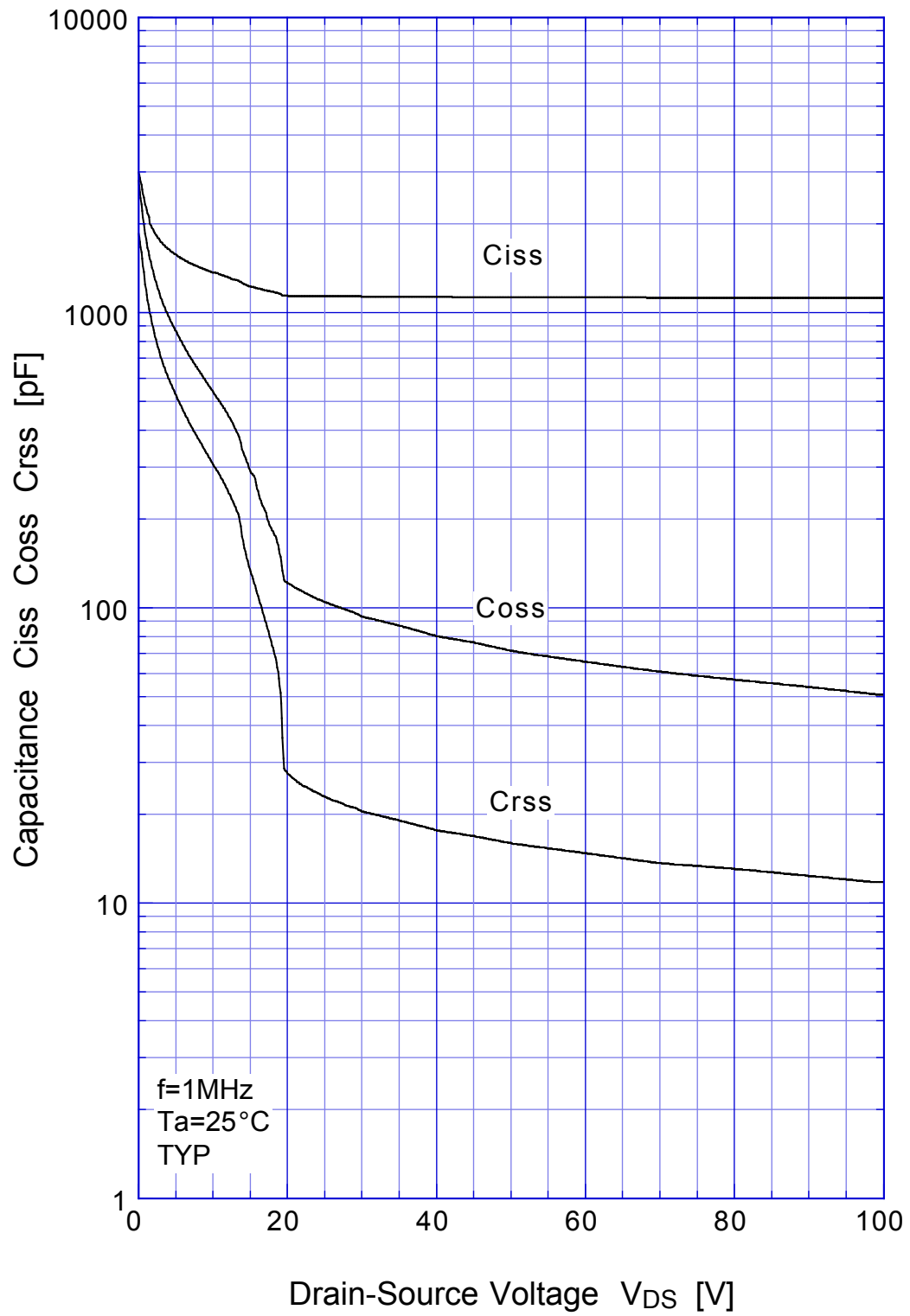


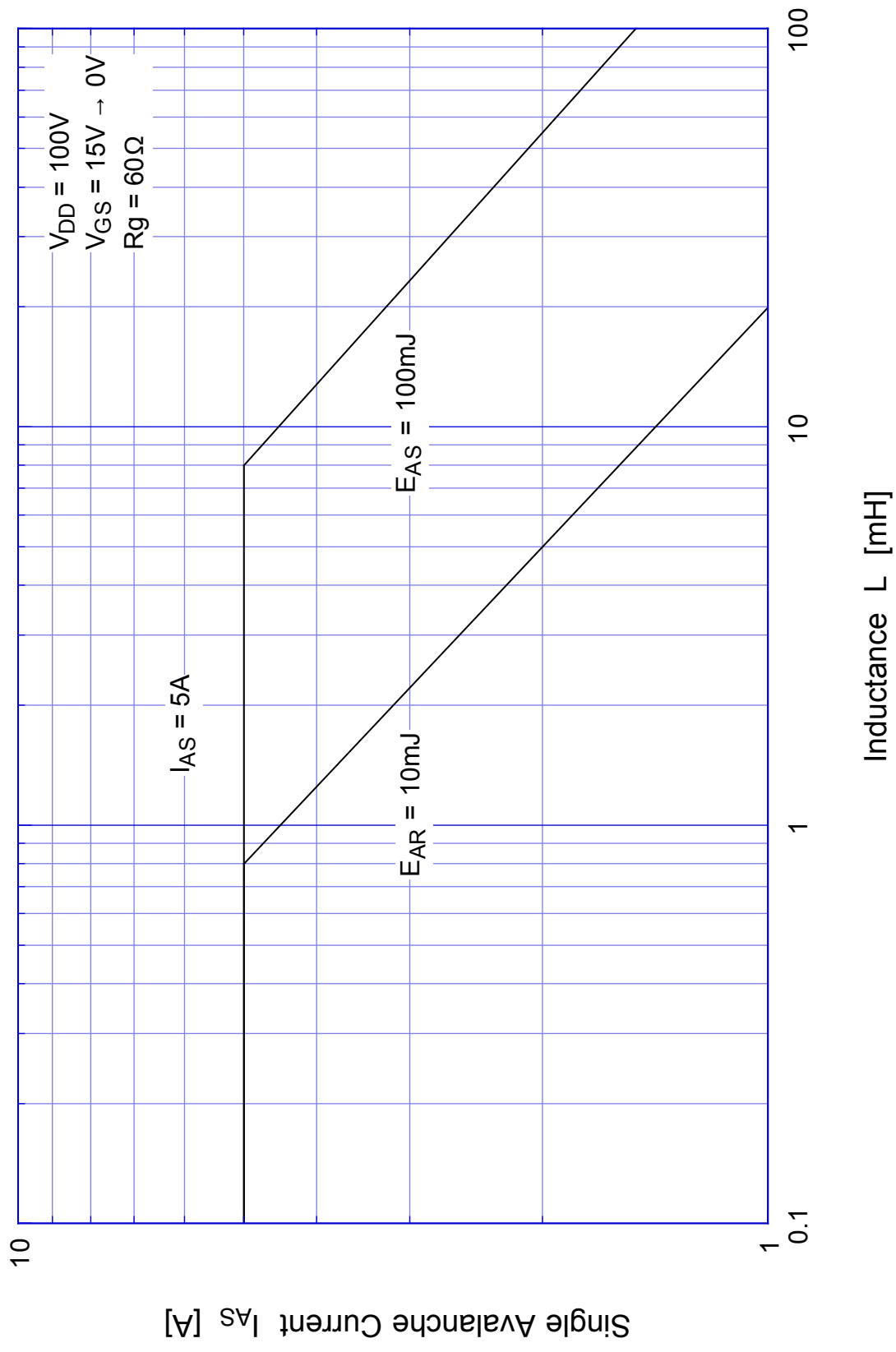
2SK2669 Single Avalanche Energy Derating



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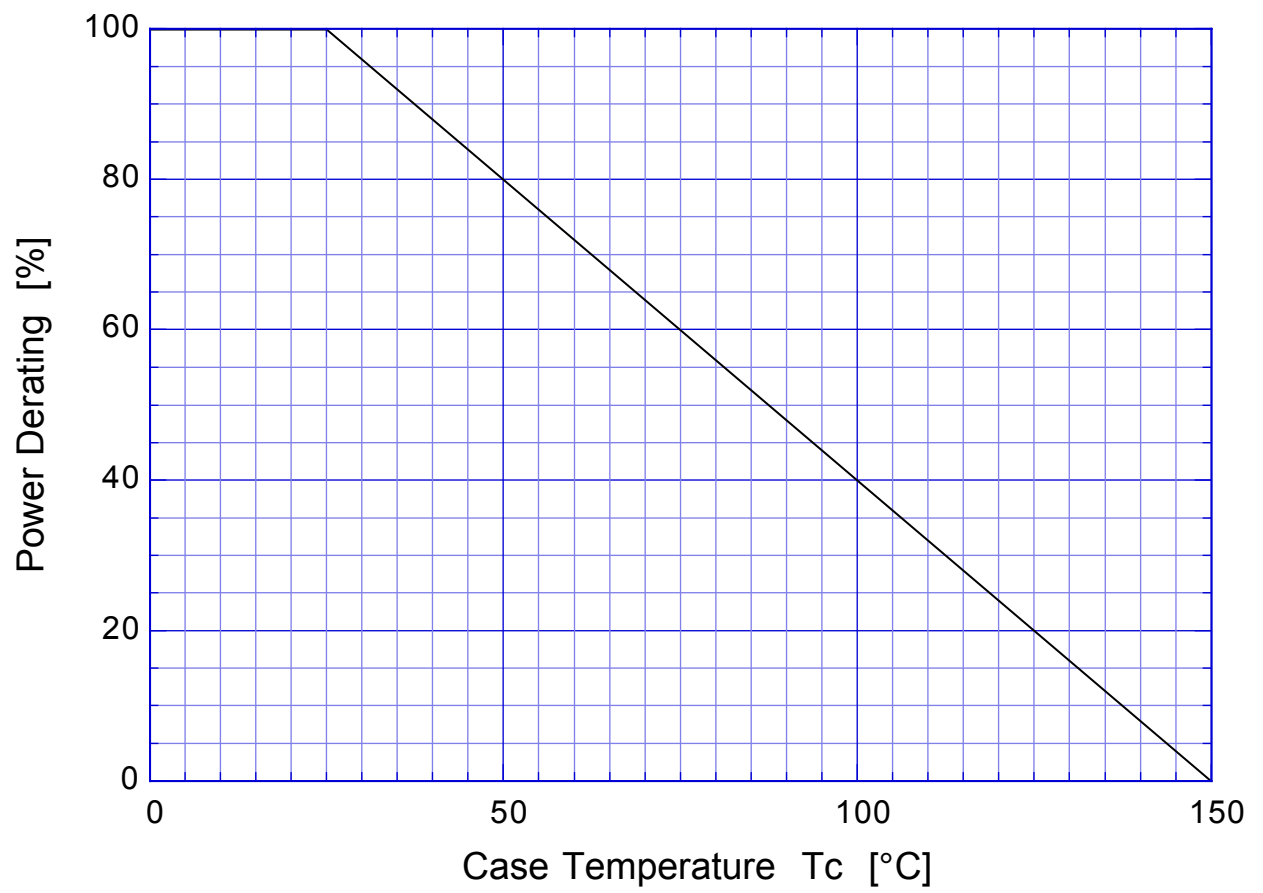
Capacitance





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Power Derating



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Gate Charge Characteristics

