

2SK2666
(F3F90HVX2)

900V 3A

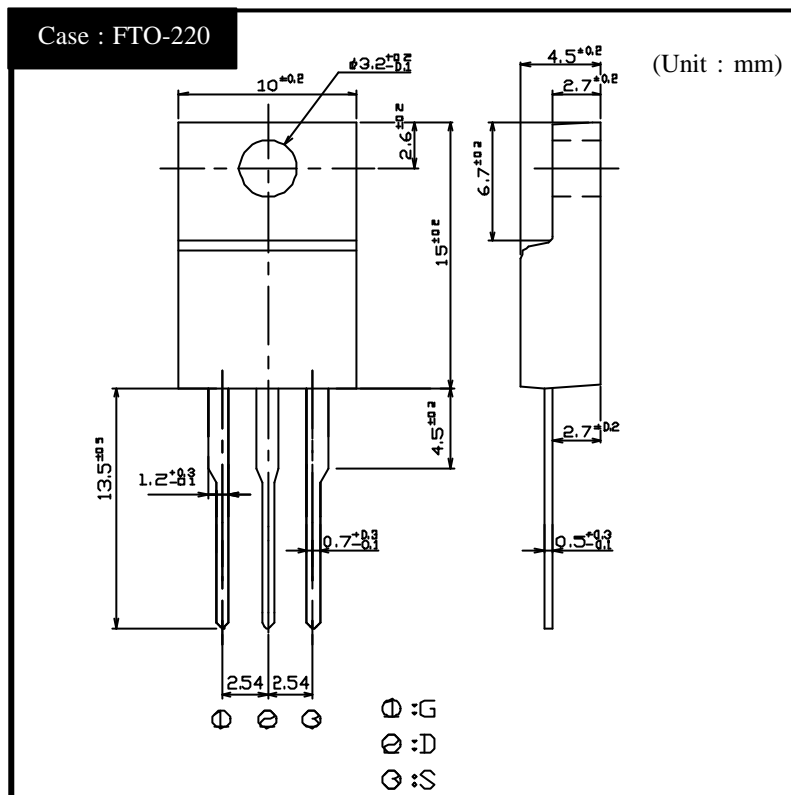
FEATURES

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 °C)

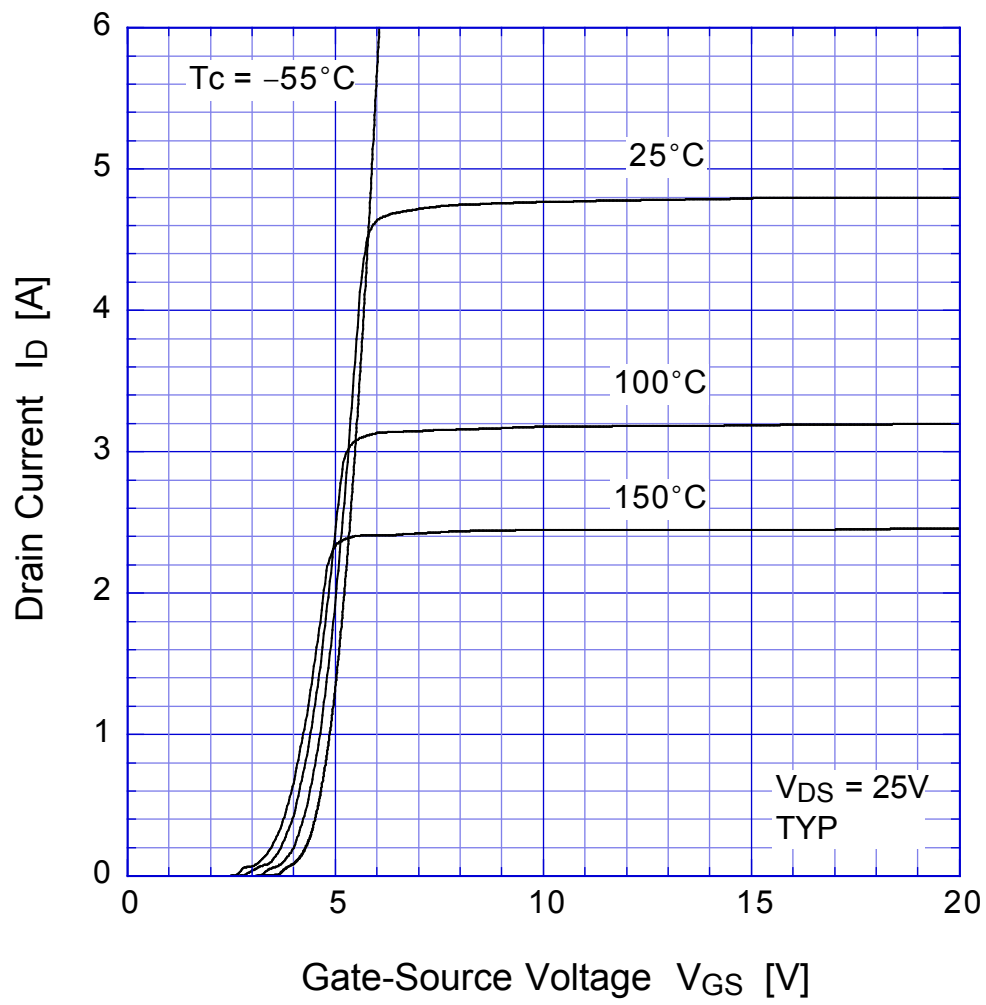
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T _{stg}		-55 ~ 150	
Channel Temperature	T _{ch}		150	
Drain-Source Voltage	V _{DSS}		900	V
Gate-Source Voltage	V _{GSS}		± 30	
Continuous Drain Current (DC)	I _D		3	A
Continuous Drain Current (Peak)	I _{DP}	Pulse width 10 μs, Duty cycle 1/100	6	
Continuous Source Current (DC)	I _S		3	
Total Power Dissipation	P _T		30	W
Repetitive Avalanche Current	I _{AR}	T _{ch} = 150	3	A
Single Avalanche Energy	E _{AS}	T _{ch} = 25	48	mJ
Repetitive Avalanche Energy	E _{AR}	T _{ch} = 25	4.8	
Dielectric Strength	V _{dis}	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°C

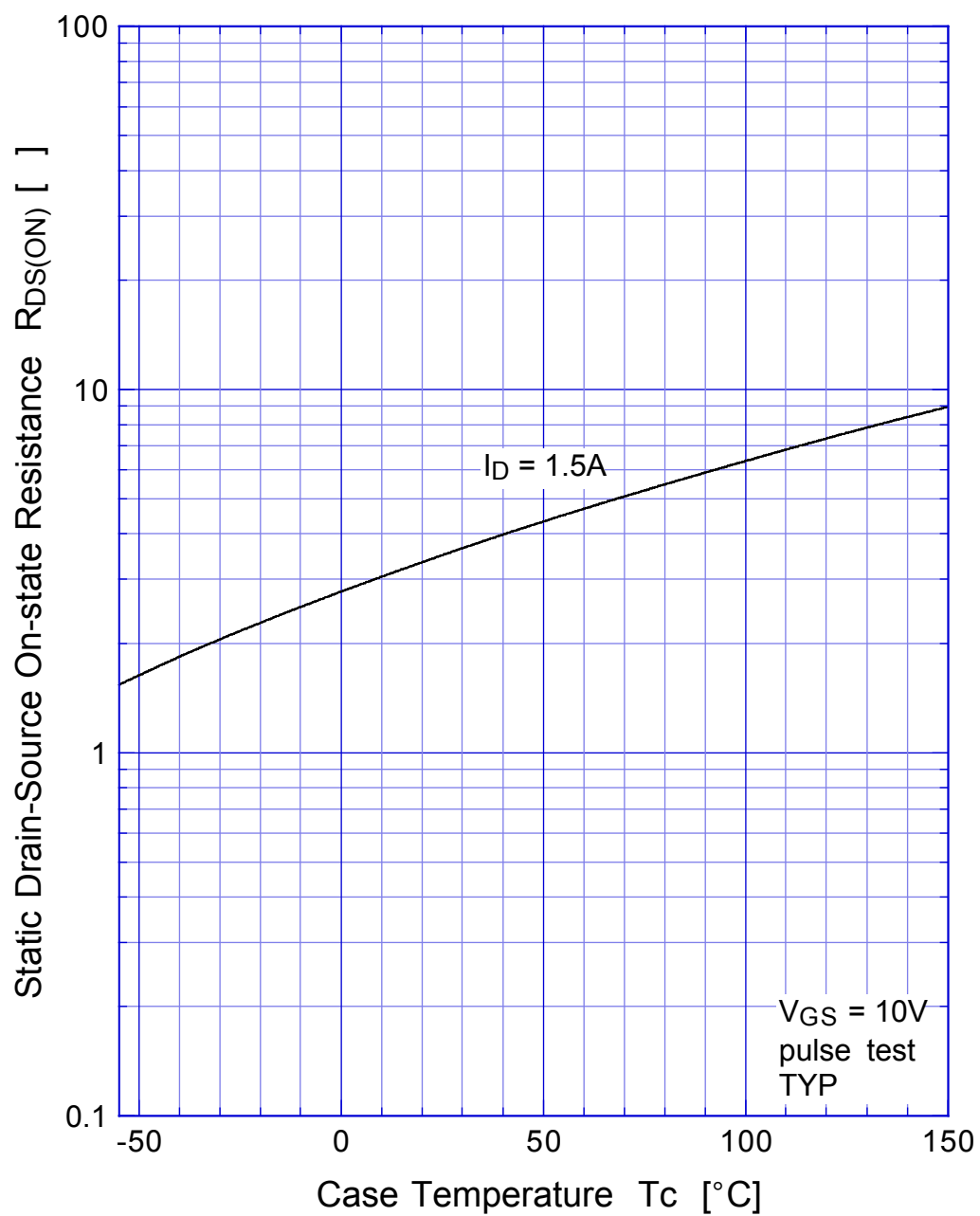
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	I _D = 1mA, V _{GS} = 0V	900			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 900V, V _{GS} = 0V			250	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±30V, V _{DS} = 0V			±0.1	
Forward Transconductance	g _{fs}	I _D = 1.5A, V _{DS} = 10V	1.5	2.5		S
Static Drain-Source On-state Resistance	R _{DS(ON)}	I _D = 1.5A, V _{GS} = 10V		3.5	4.7	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 = 1.5A, V _{GS} = 0V			1.5	
Thermal Resistance	θ _{jc}	junction to case			4.16	°C/W
Total Gate Charge	Q _g	V _{DD} = 400V, V _{GS} = 10V, I _D = 3A		30		nC
Input Capacitance	C _{iss}	V _{DS} = 25V, V _{GS} = 0V, f = 1MHz		630		pF
Reverse Transfer Capacitance	C _{rss}			16		
Output Capacitance	C _{oss}			67		
Turn-On Time	t _{on}	I _D = 1.5A, R _L = 100Ω, V _{GS} = 10V		40	70	ns
Turn-Off Time	t _{off}			140	230	

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Transfer Characteristics

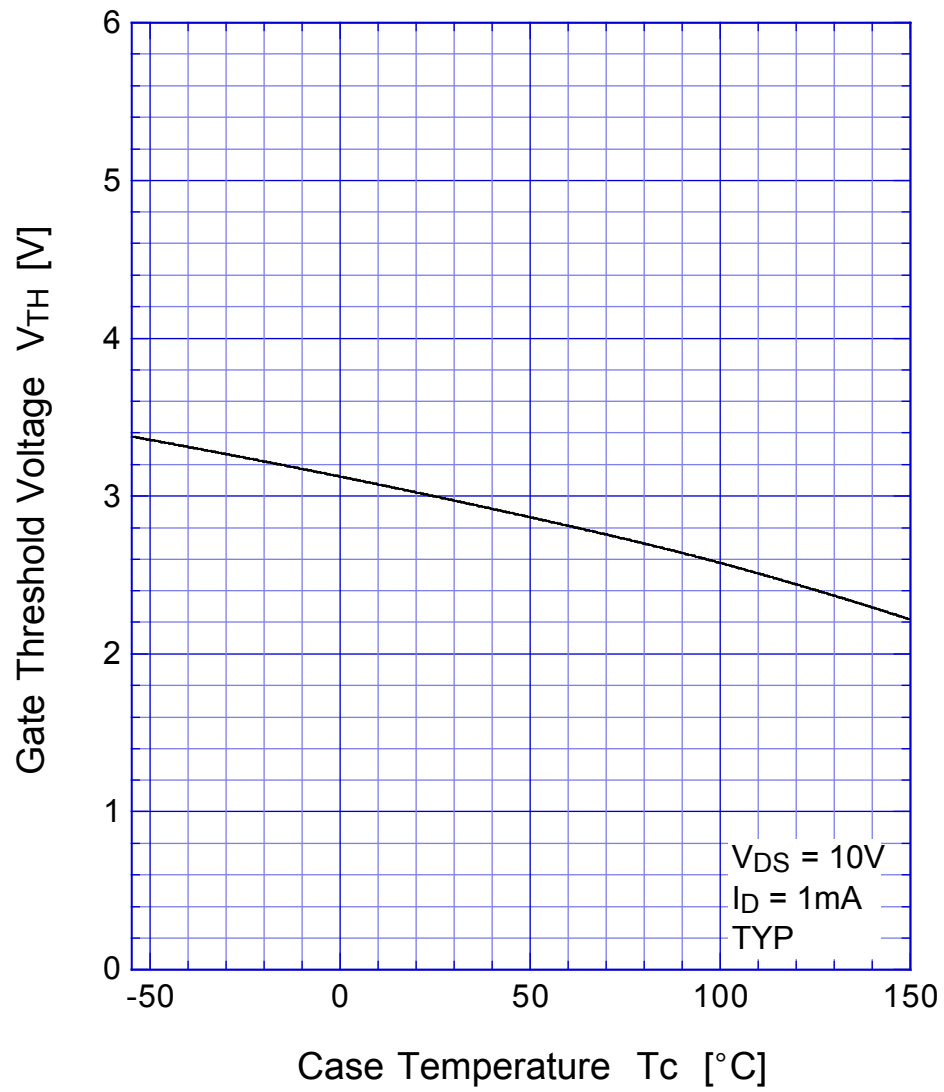


2SK2666 Static Drain-Source On-state Resistance



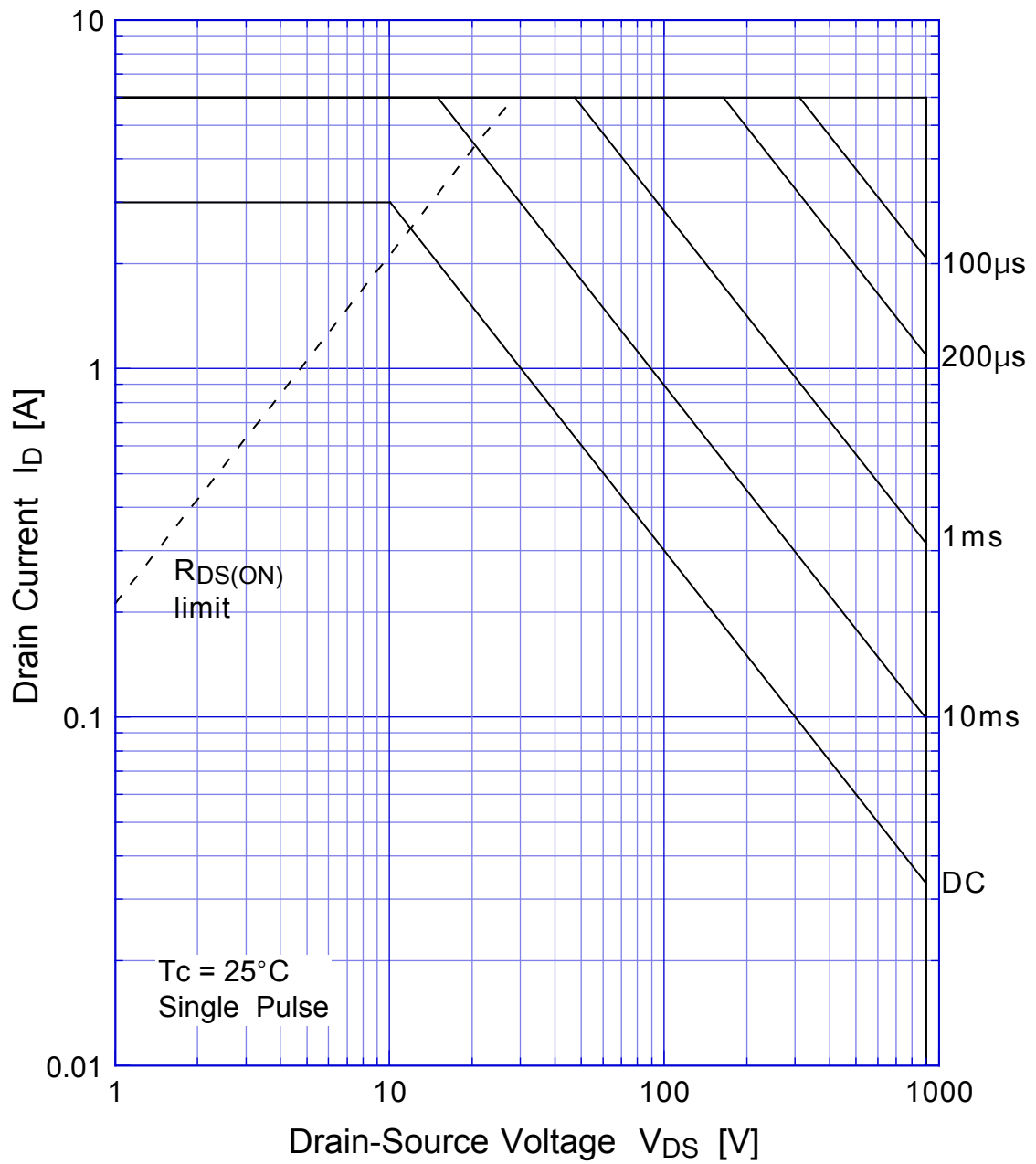
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Gate Threshold Voltage

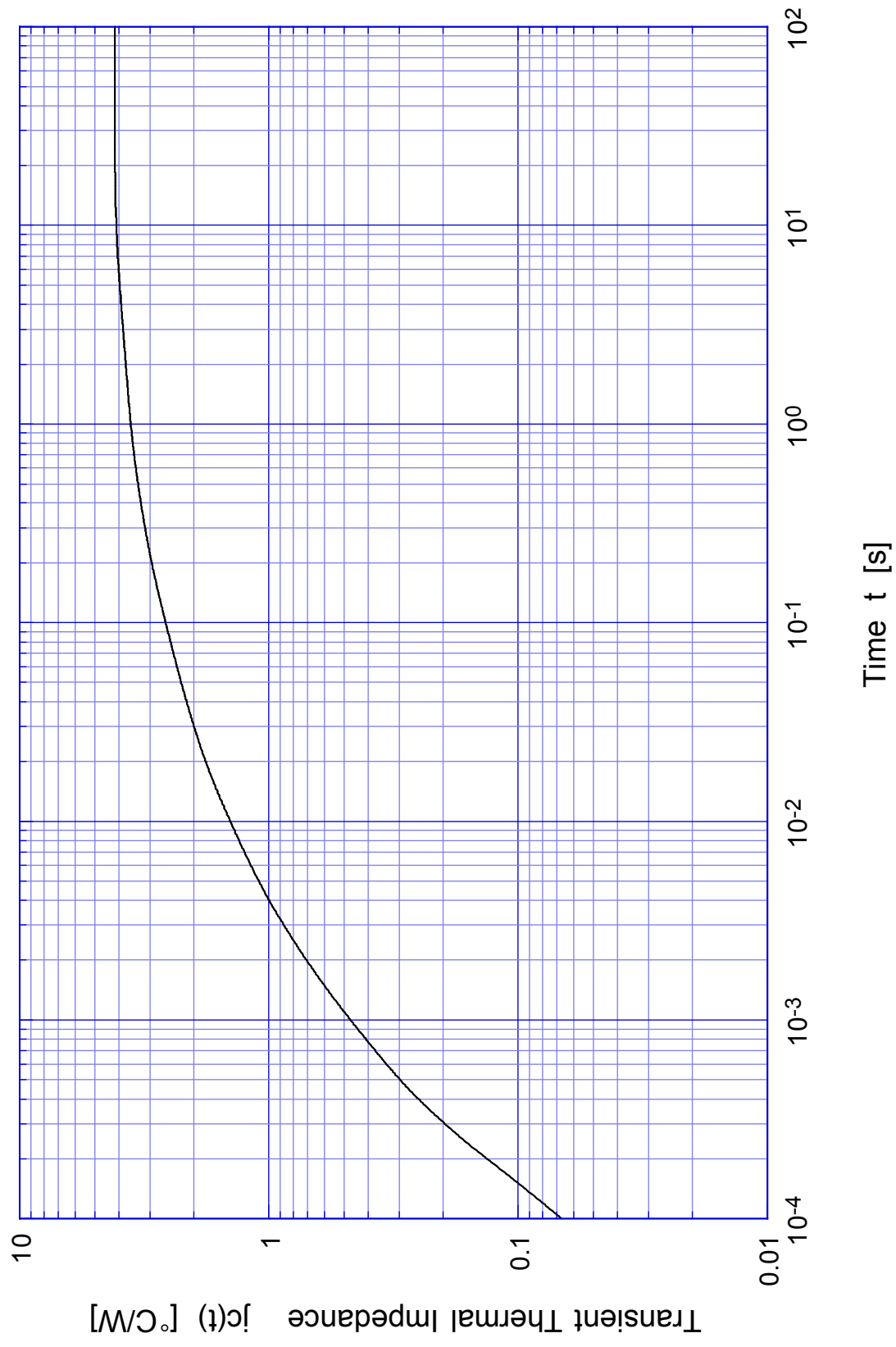


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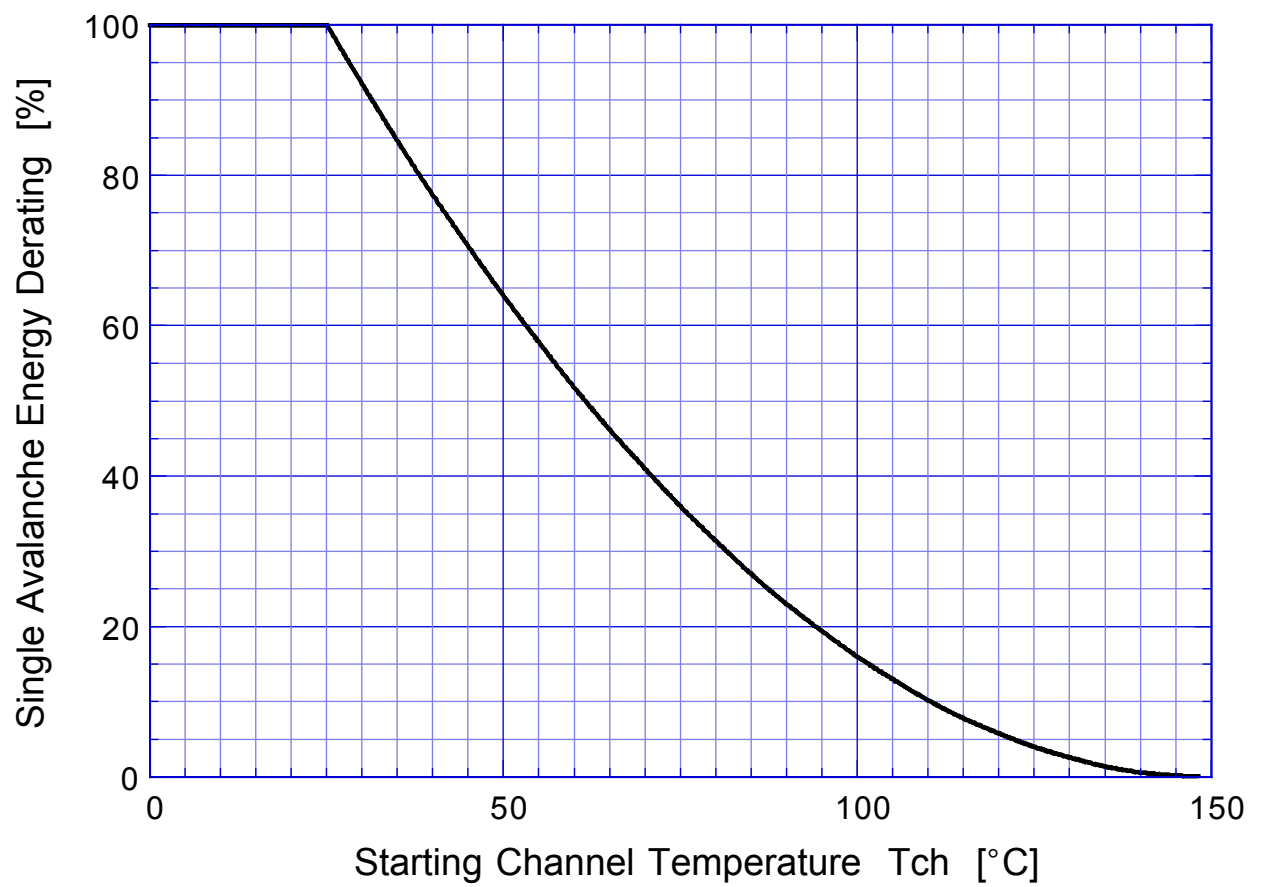
Safe Operating Area



2SK2666 Transient Thermal Impedance

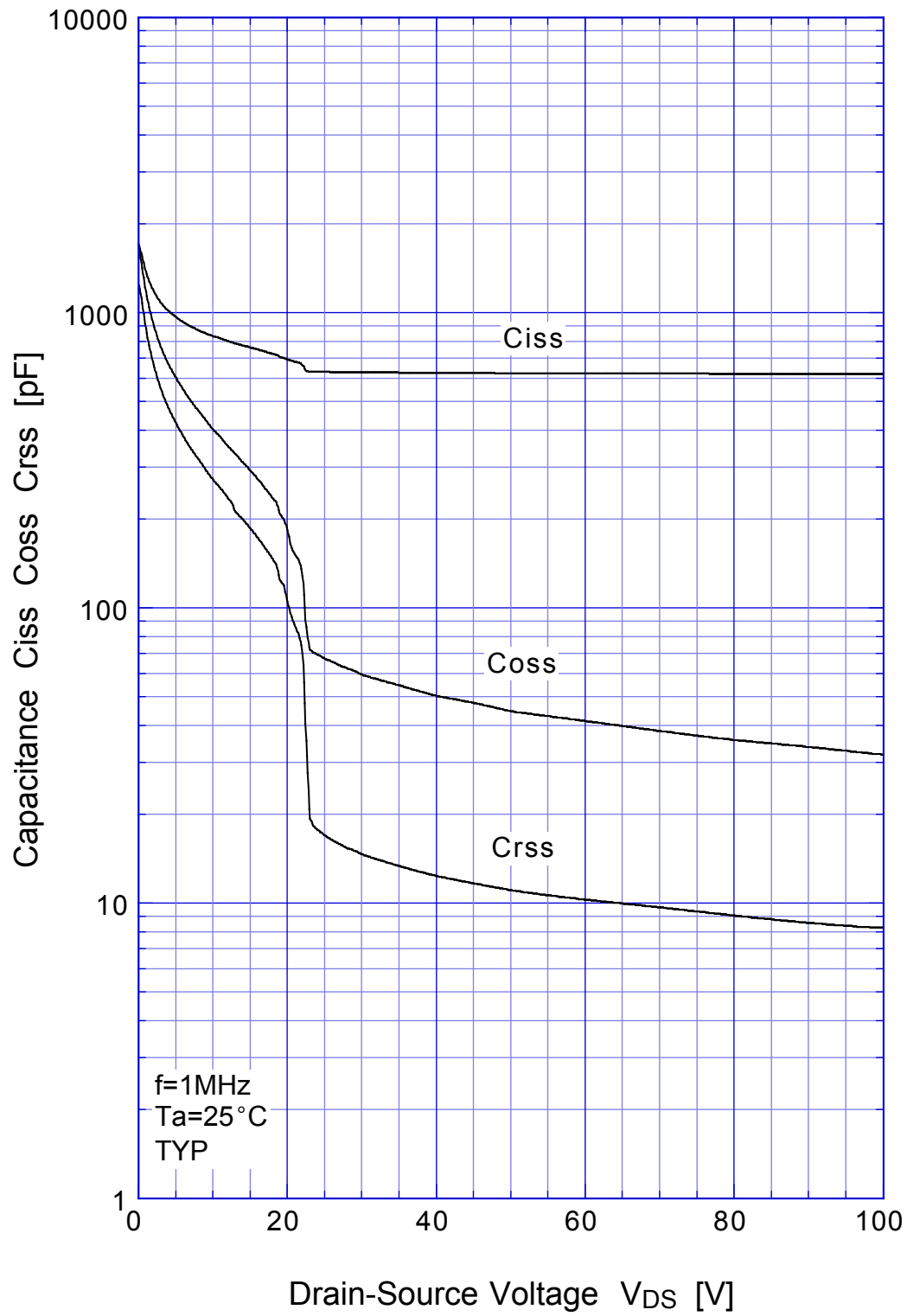


2SK2666 Single Avalanche Energy Derating

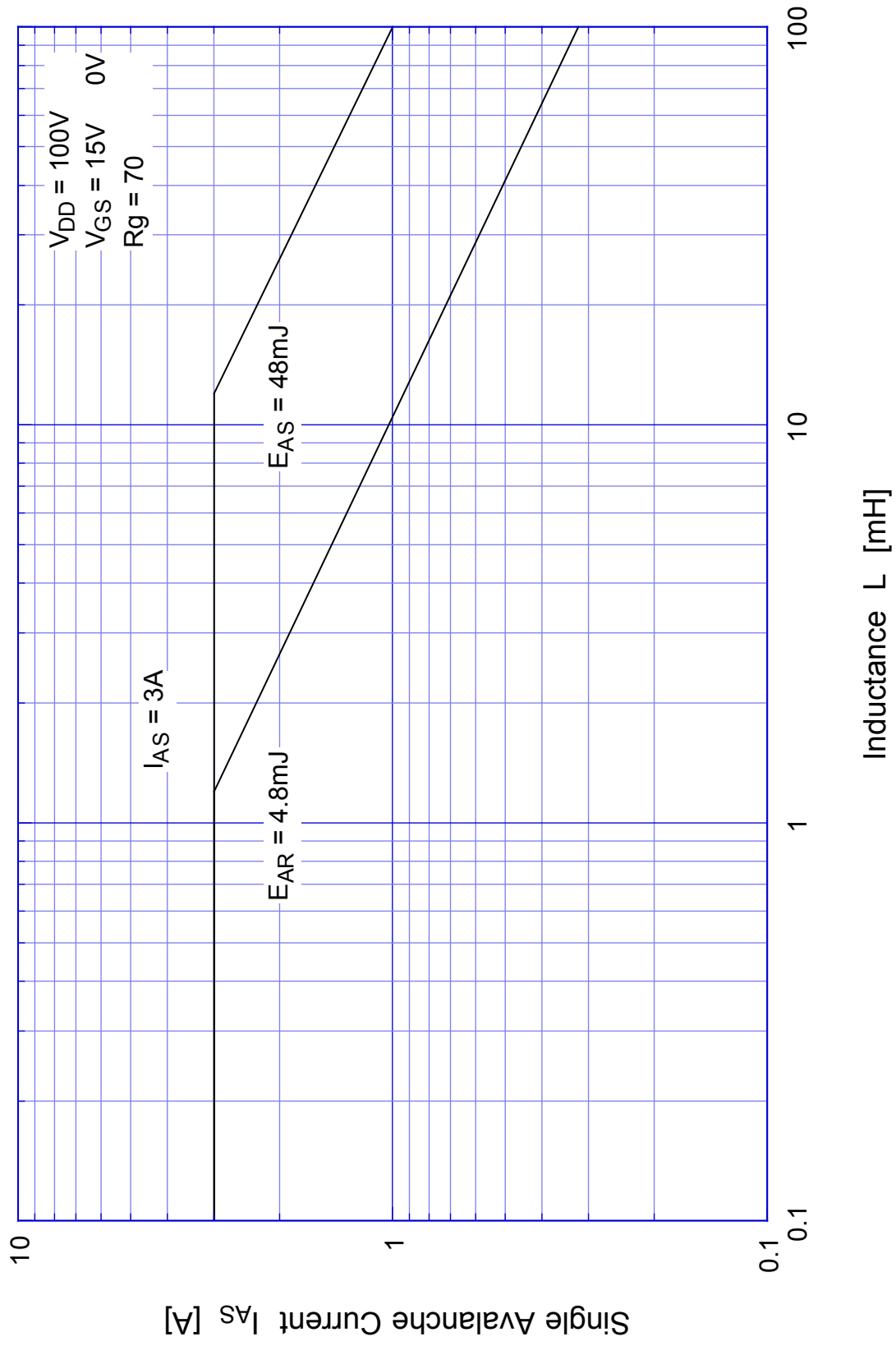


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Capacitance

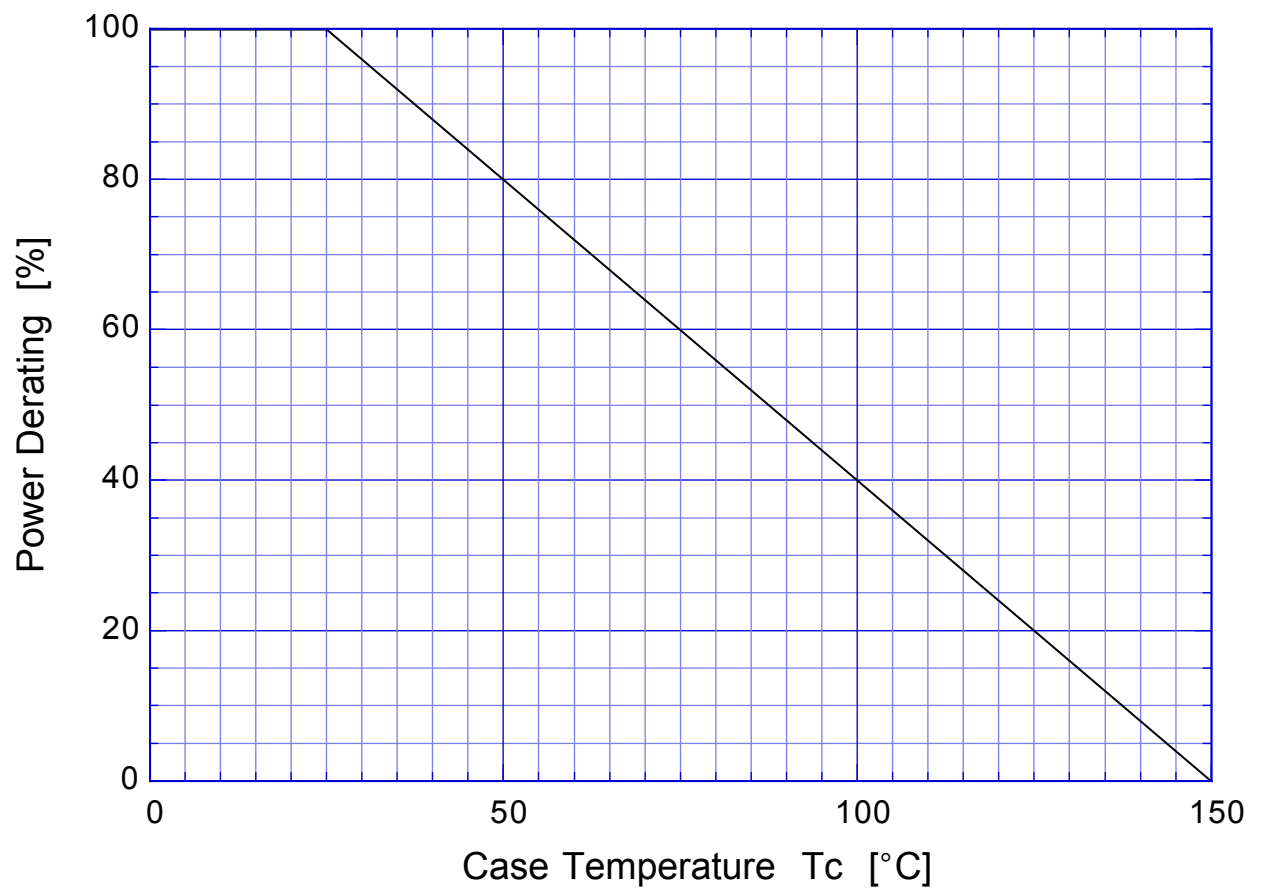


2SK2666 Single Avalanche Current - Inductive Load



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Power Derating



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Gate Charge Characteristics

