

2SK2183
(F5V50VX2)

500V 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.

APPLICATION

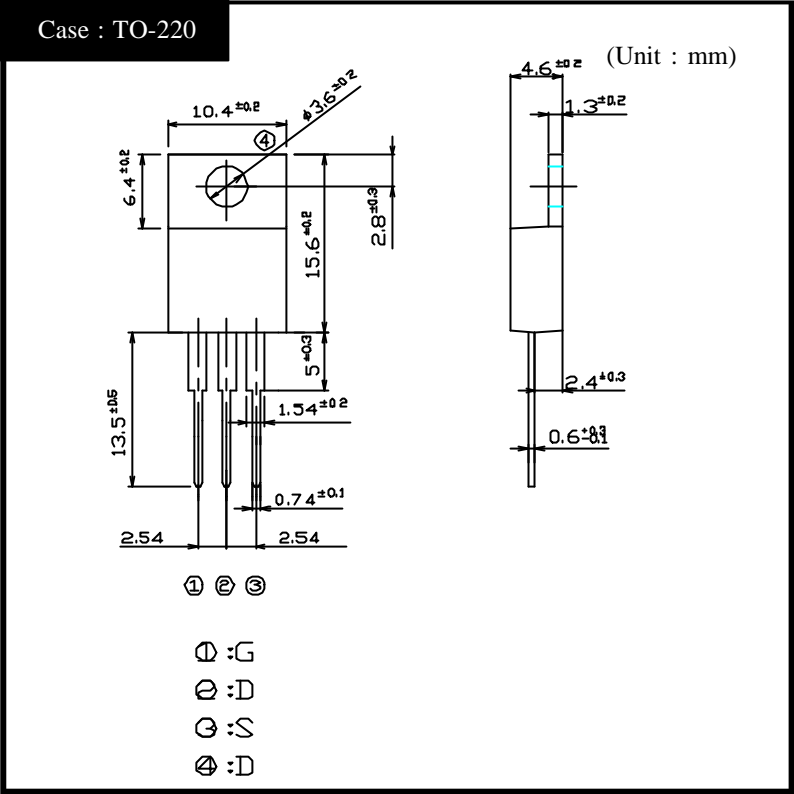
Switching power supply of AC 100V input
High voltage power supply
Inverter

RATINGS

Absolute Maximum Ratings (Tc = 25)

Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	Tstg		-55 ~ 150	
Channel Temperature	Tch		150	
Drain-Source Voltage	VDSS		500	V
Gate-Source Voltage	VGSS		± 30	
Continuous Drain Current (DC)	ID		5	A
Continuous Drain Current (Peak)	IDP		15	
Continuous Source Current (DC)	IS		5	
Total Power Dissipation	PT		50	W
Single Pulse Avalanche Current	IAS	Tch = 25	5	A
Mounting Torque	TOR	(Recommended torque : 0.3 N·m)	0.5	N·m

OUTLINE DIMENSIONS

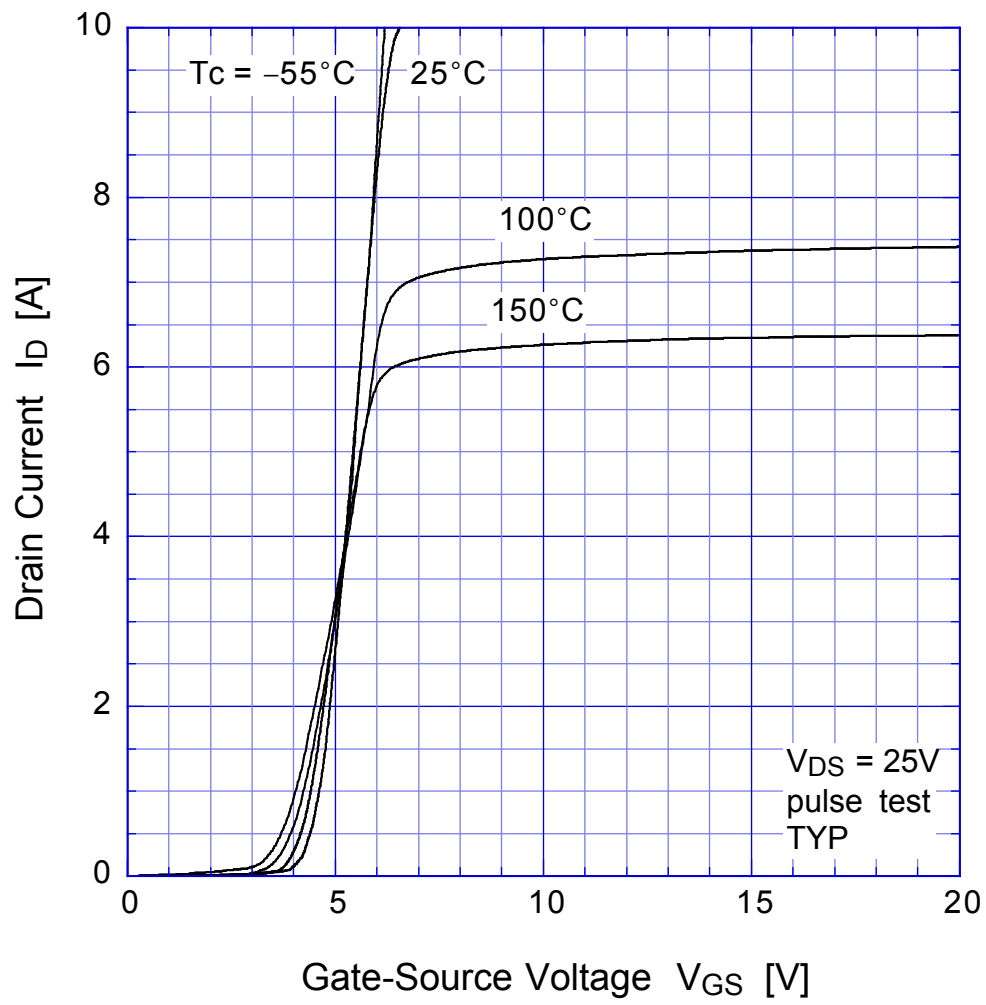


●Electrical Characteristics T_c = 25°C

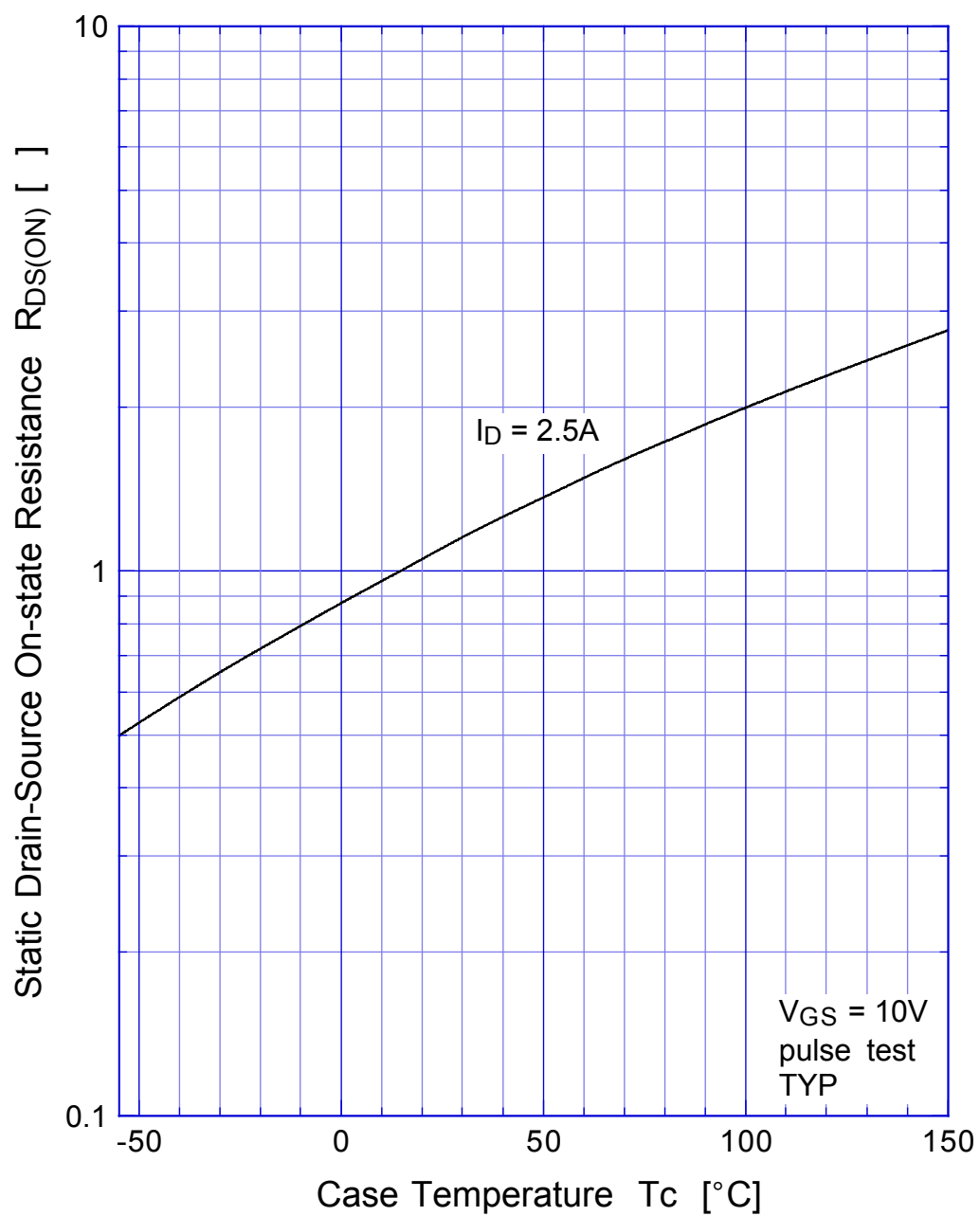
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V(BR)DSS	I _D = 1mA, V _{GS} = 0V	500			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 500V, V _{GS} = 0V			250	μ A
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±30V, V _{DS} = 0V			±0.1	
Forward Transconductance	g _{fs}	I _D = 2.5A, V _{DS} = 10V	1.5	3.8		S
Static Drain-Source On-state Resistance	R _{DS(ON)}	I _D = 2.5A, V _{GS} = 10V		1.1	1.5	Ω
Gate Threshold Voltage	V _{TH}	I _D = 1mA, V _{DS} = 10V	2.5	3.0	3.5	V
Source-Drain Diode Forwade Voltage	V _{SD}	I _S = 2.5A, V _{GS} = 0V			1.5	
Thermal Resistance	θ _{jc}	junction to case			2.5	°C/W
Total Gate Charge	Q _g	V _{DD} = 400V, V _{GS} = 10V, I _D = 5A		21		nC
Input Capacitance	C _{iss}	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz		580		pF
Reverse Transfer Capacitance	C _{rss}			45		
Output Capacitance	C _{oss}			140		
Turn-On Time	t _{on}	I _D = 2.5A, V _{GS} = 10V, R _L = 60Ω		55	90	ns
Turn-Off Time	t _{off}			110	170	

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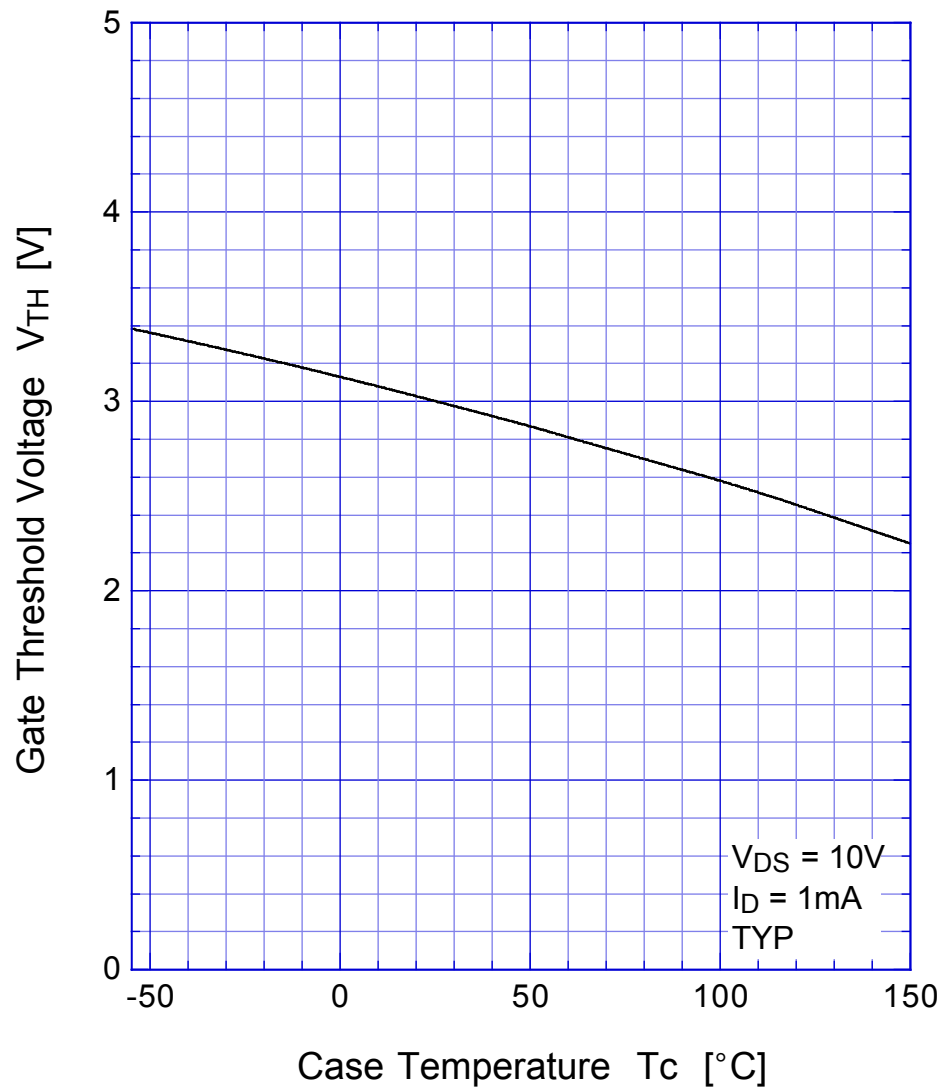
Transfer Characteristics



2SK2183 Static Drain-Source On-state Resistance

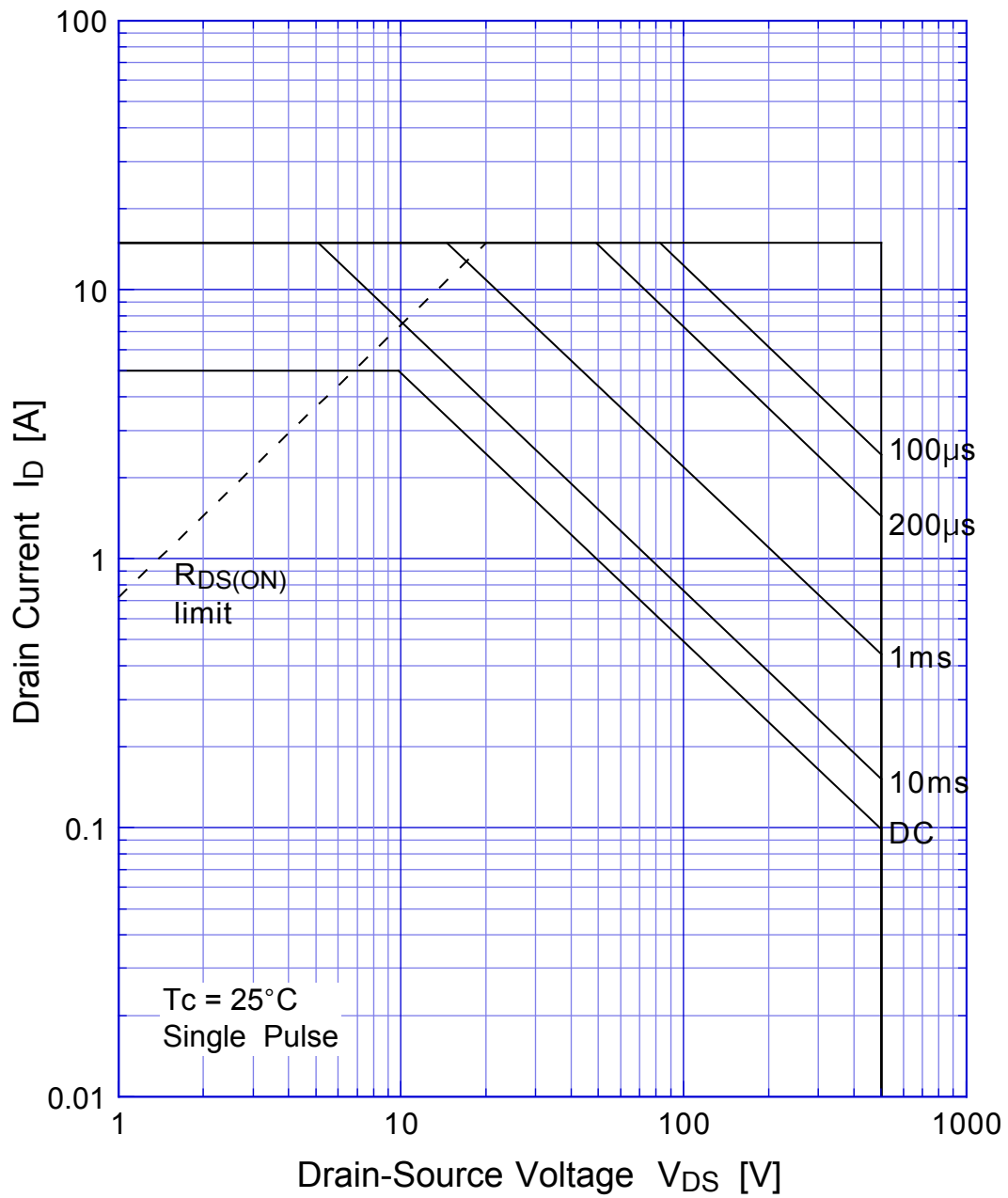


2SK2183 Gate Threshold Voltage

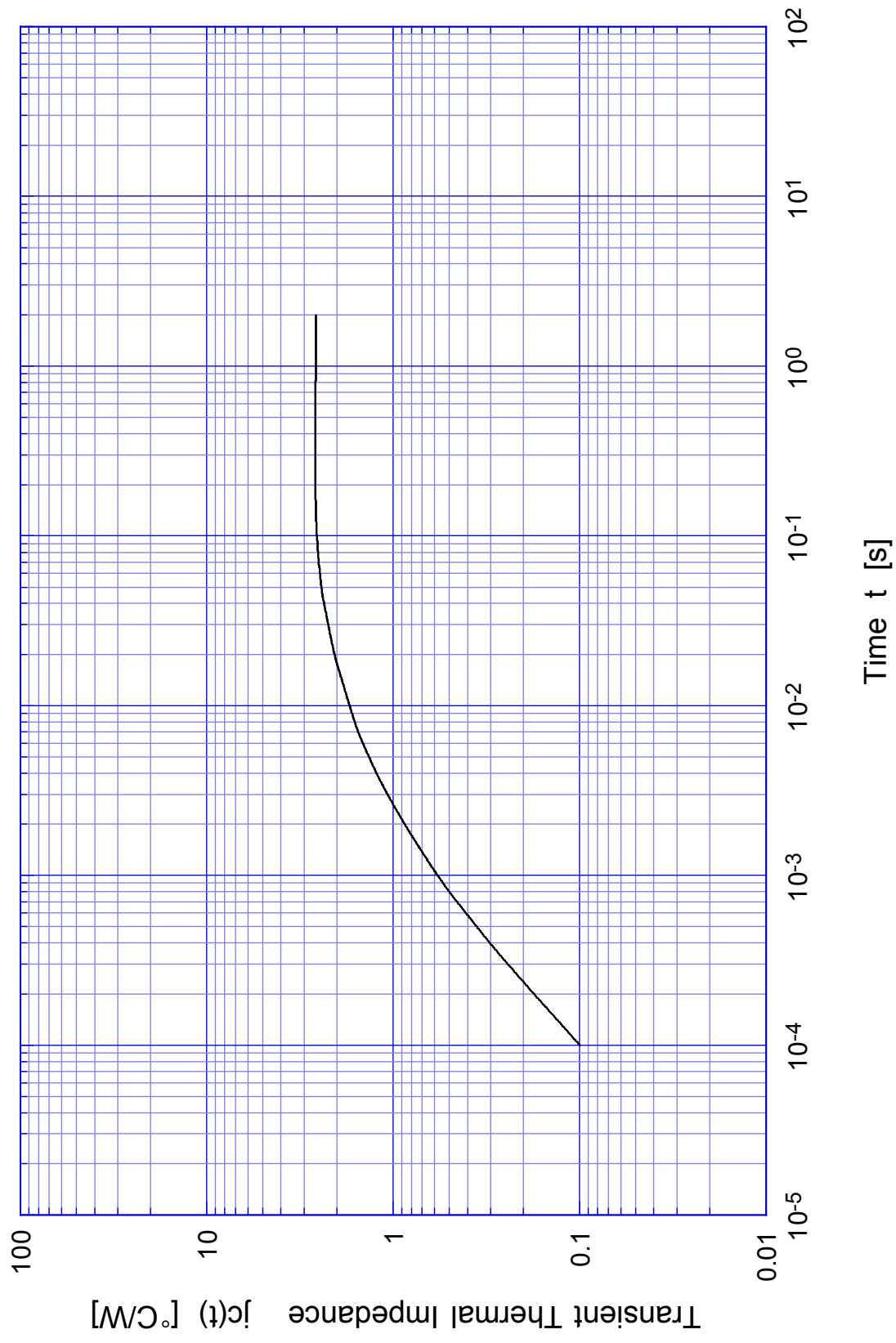


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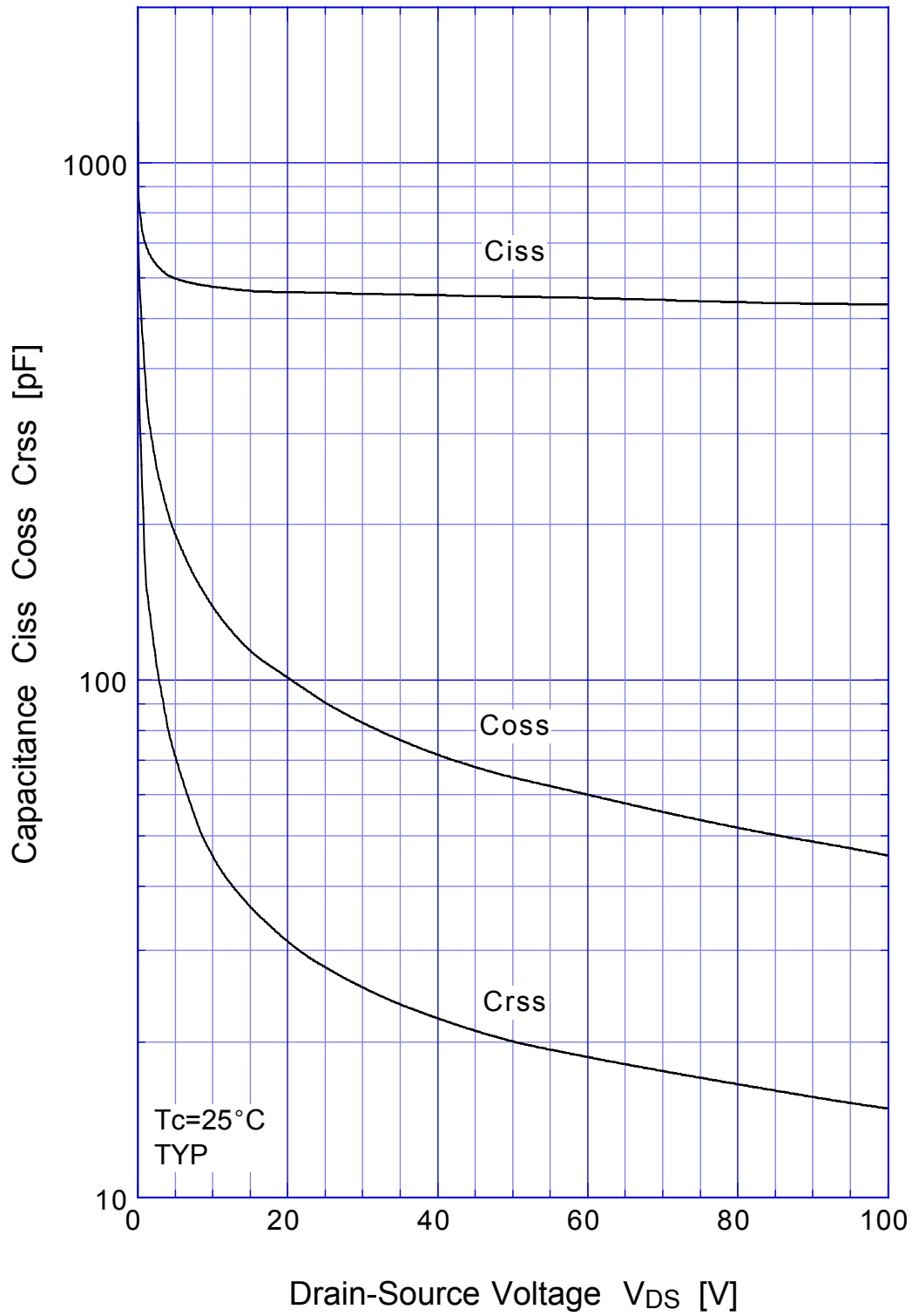
Safe Operating Area



2SK2183 Transient Thermal Impedance

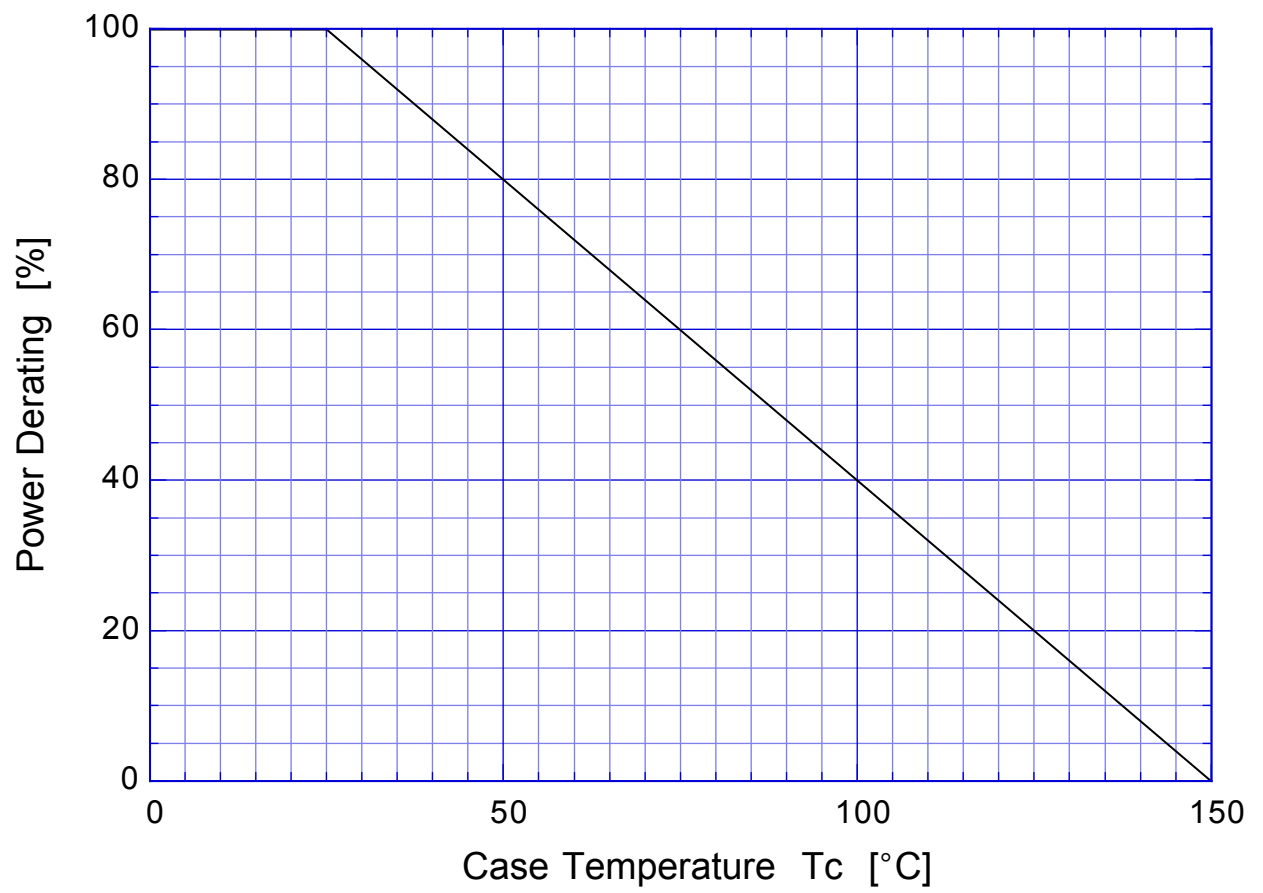


2SK2183 Capacitance



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Power Derating



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Gate Charge Characteristics

