

2SK2333

(F6F70HVX2)

700V 6A

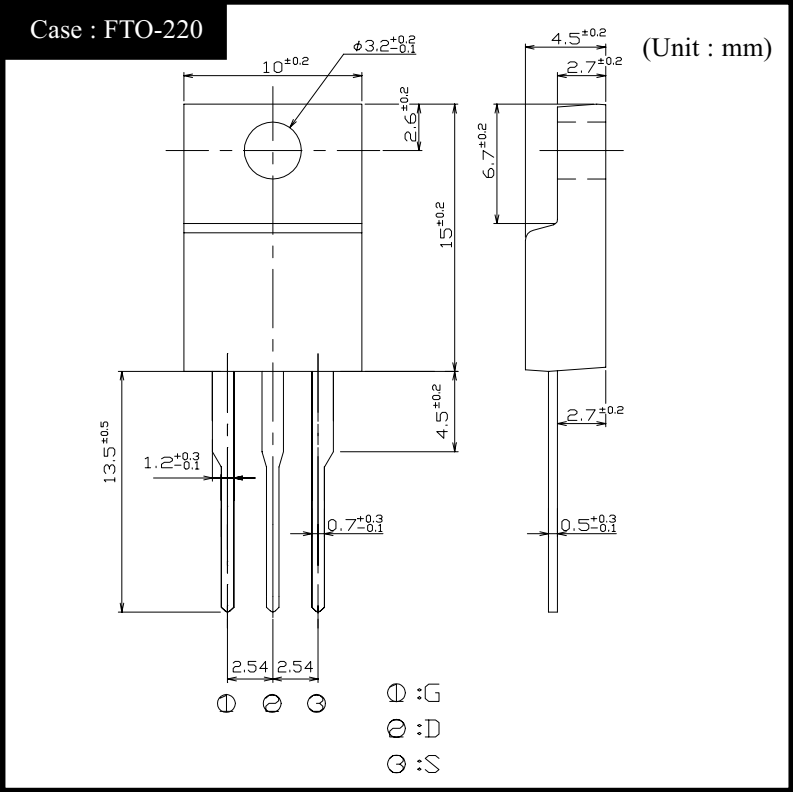
FEATURES

- 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)

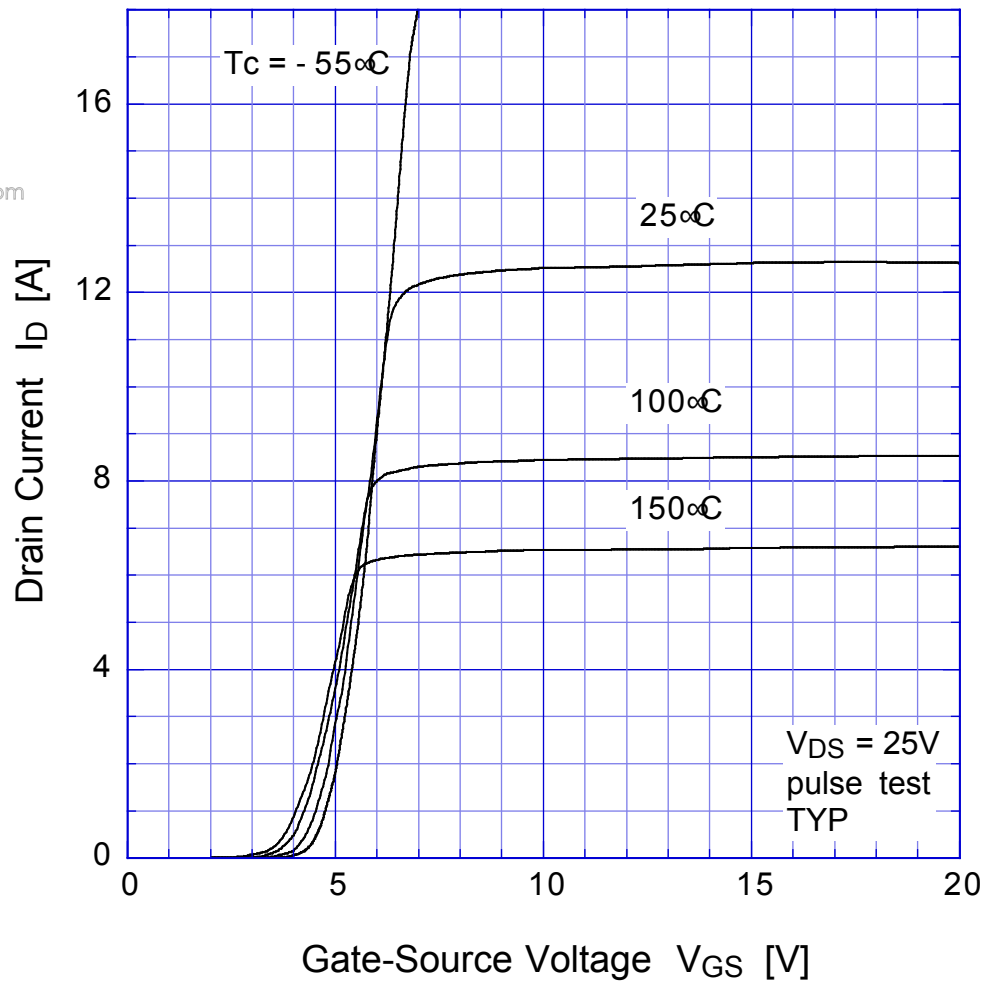
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T _{stg}		-55~150	°C
Channel Temperature	T _{ch}		150	
Drain-Source Voltage	V _{DSS}		700	V
Gate-Source Voltage	V _{GSS}		±30	
Continuous Drain Current (DC)	I _D		6	A
Continuous Drain Current (Peak)	I _{DP}	Pulse width ≤ 10 μs, Duty cycle ≤ 1/100	18	
Continuous Source Current (DC)	I _S		6	
Total Power Dissipation	P _T		50	W
Repetitive Avalanche Current	I _{AR}	T _{ch} = 150°C	6	A
Single Avalanche Energy	E _{AS}	T _{ch} = 25°C	190	
Repetitive Avalanche Energy	E _{AR}	T _{ch} = 25°C	19	mJ
Dielectric Strength	V _{dis}	Terminals to case, AC 1 minute	2	
Mounting Torque	TOR	(Recommended torque : 0.3 N·m)	0.5	N·m

●Electrical Characteristics T_c = 25°C

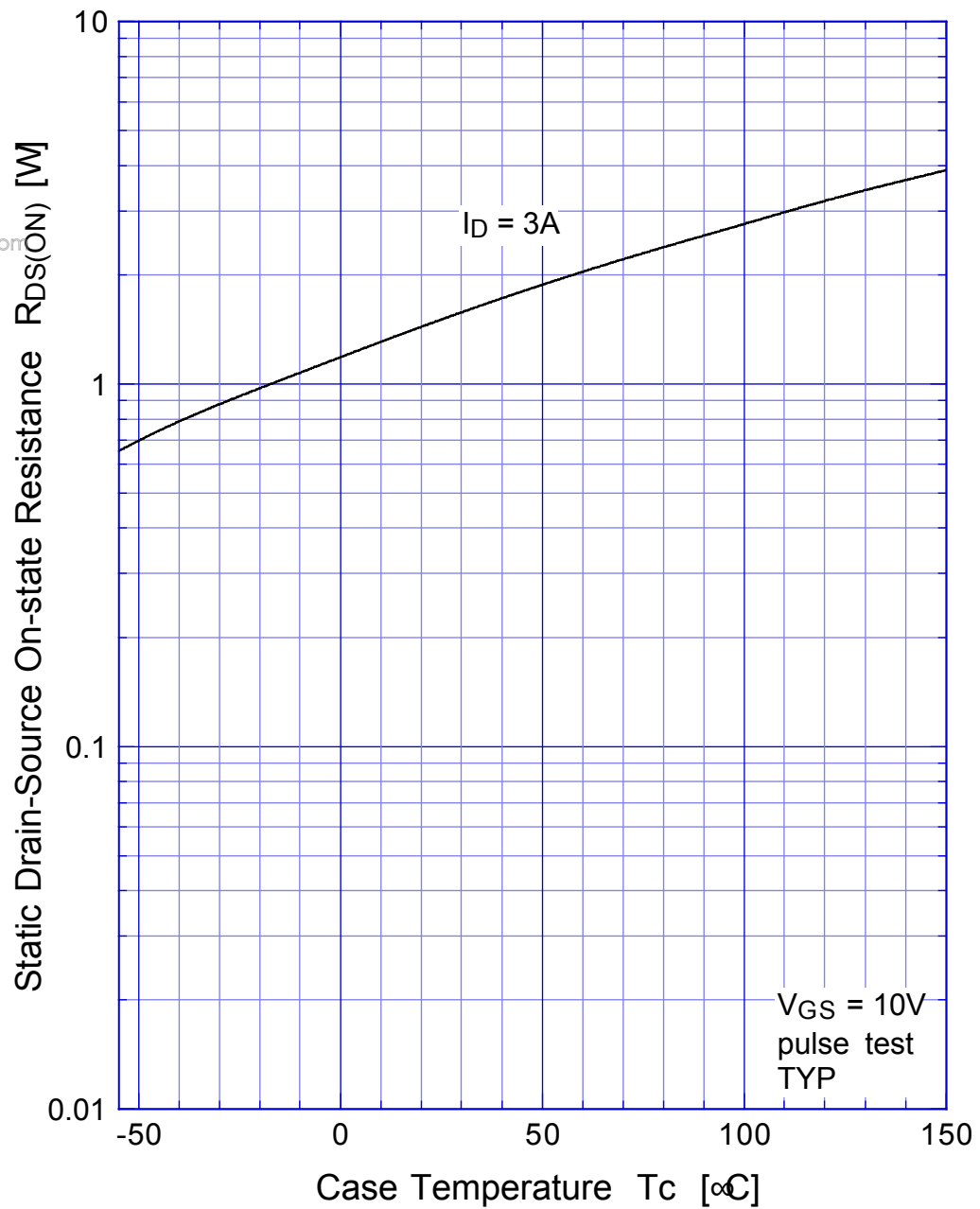
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	I _D = 1mA, V _{GS} = 0V	700			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 700V, V _{GS} = 0V			250	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±30V, V _{DS} = 0V			±0.1	
Forward Transconductance	g _{fs}	I _D = 3A, V _{DS} = 10V	3.0	5.0		S
Static Drain-Source On-state Resistance	R _{DS(ON)}	I _D = 3A, V _{GS} = 10V		1.5	2.0	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 = 3A, 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 = 6A		35		nC
Input Capacitance	C _{iss}	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz		1250		pF
Reverse Transfer Capacitance	C _{rss}			250		
Output Capacitance	C _{oss}			530		
Turn-On Time	t _{on}	I _D = 3A, R _L = 50Ω, V _{GS} = 10V		60	110	ns
Turn-Off Time	t _{off}			160	250	

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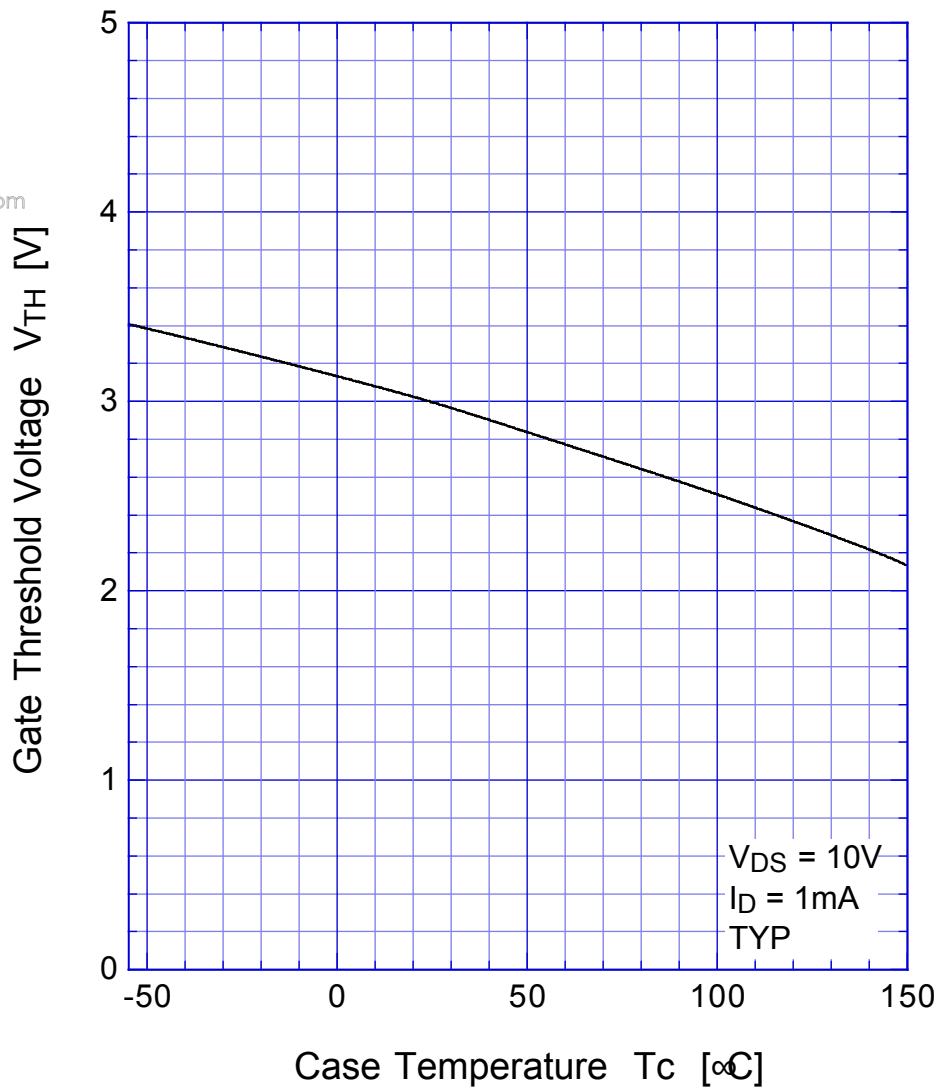
Transfer Characteristics



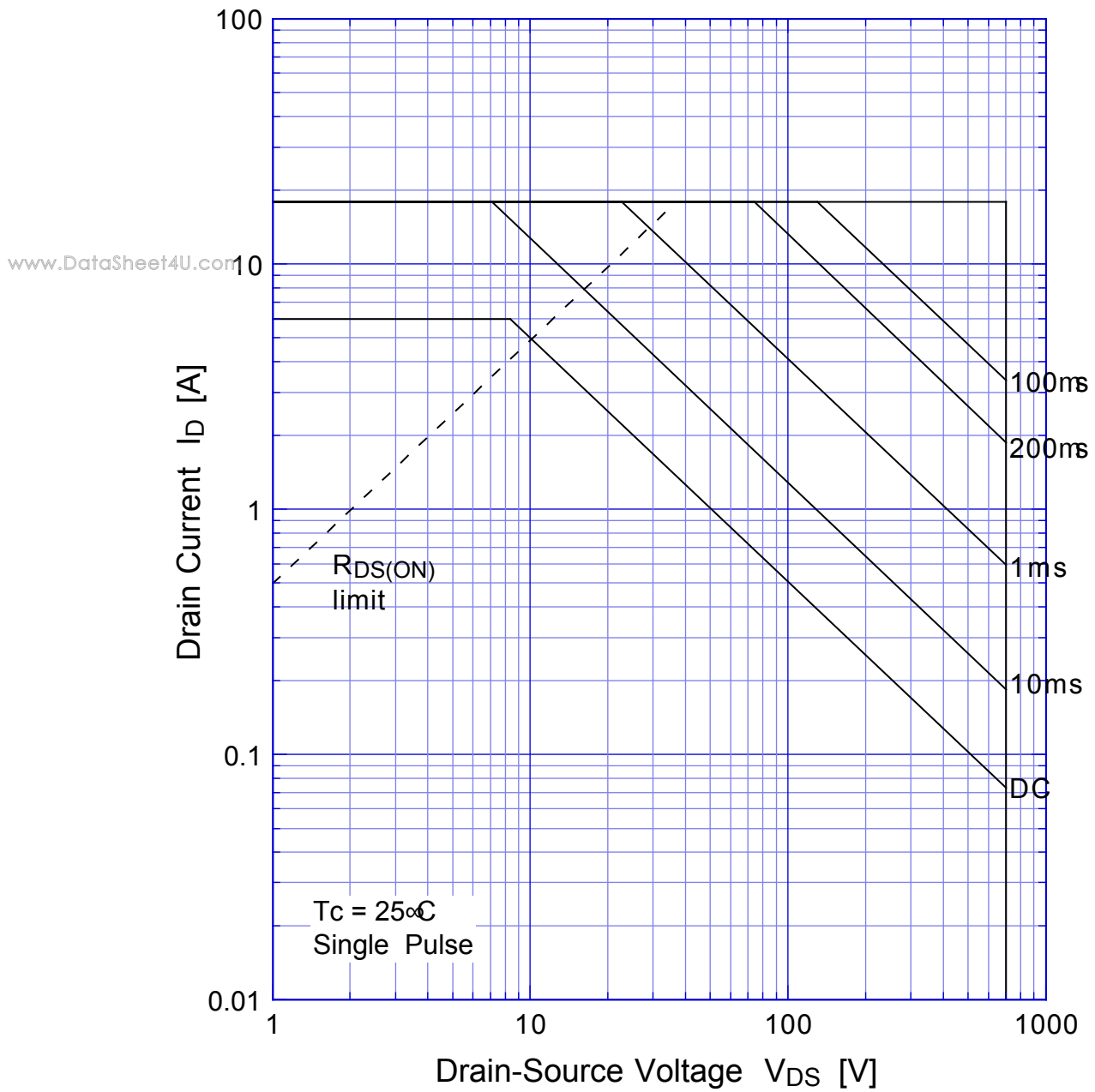
2SK2333 Static Drain-Source On-state Resistance



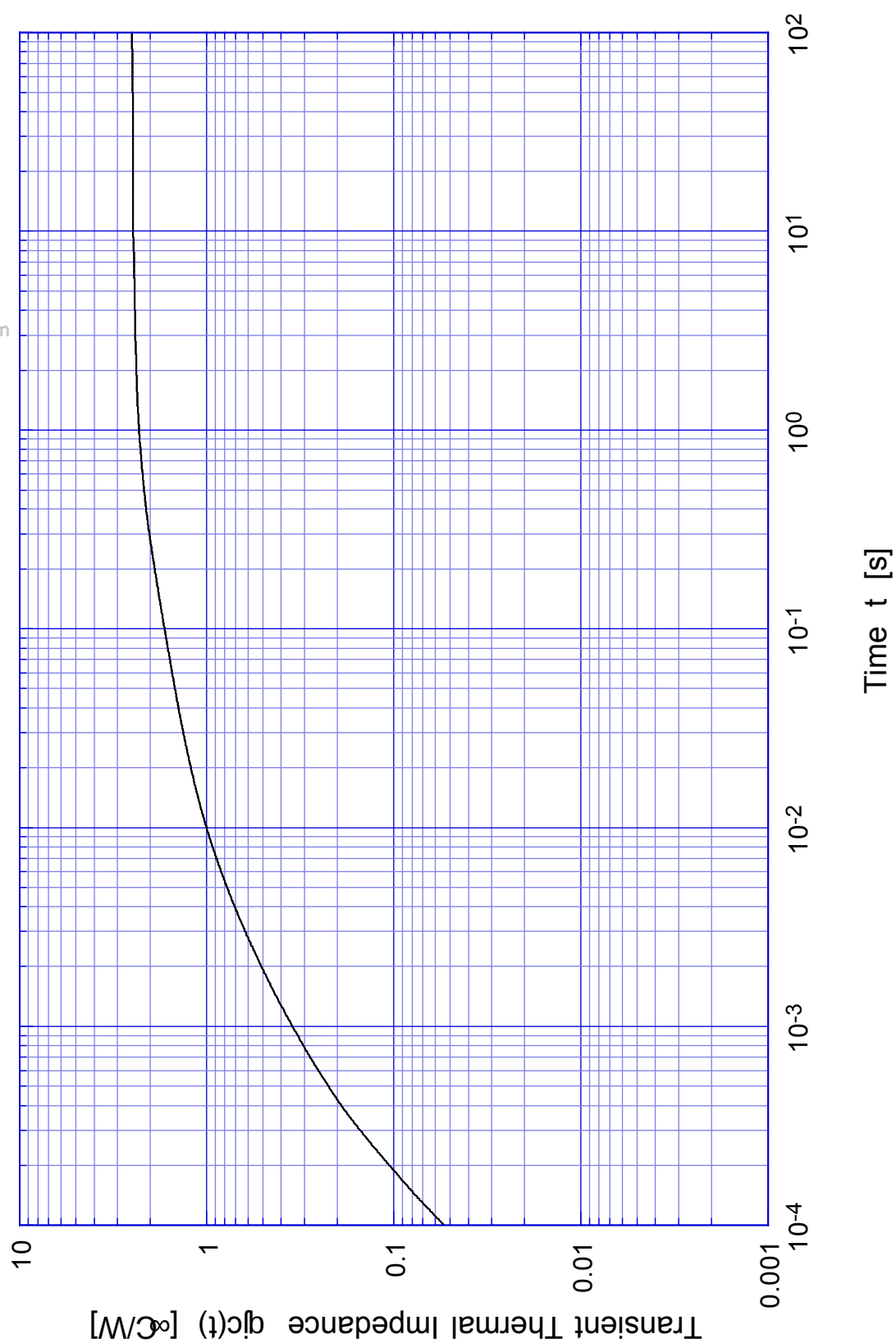
2SK2333 Gate Threshold Voltage



2SK2333 Safe Operating Area

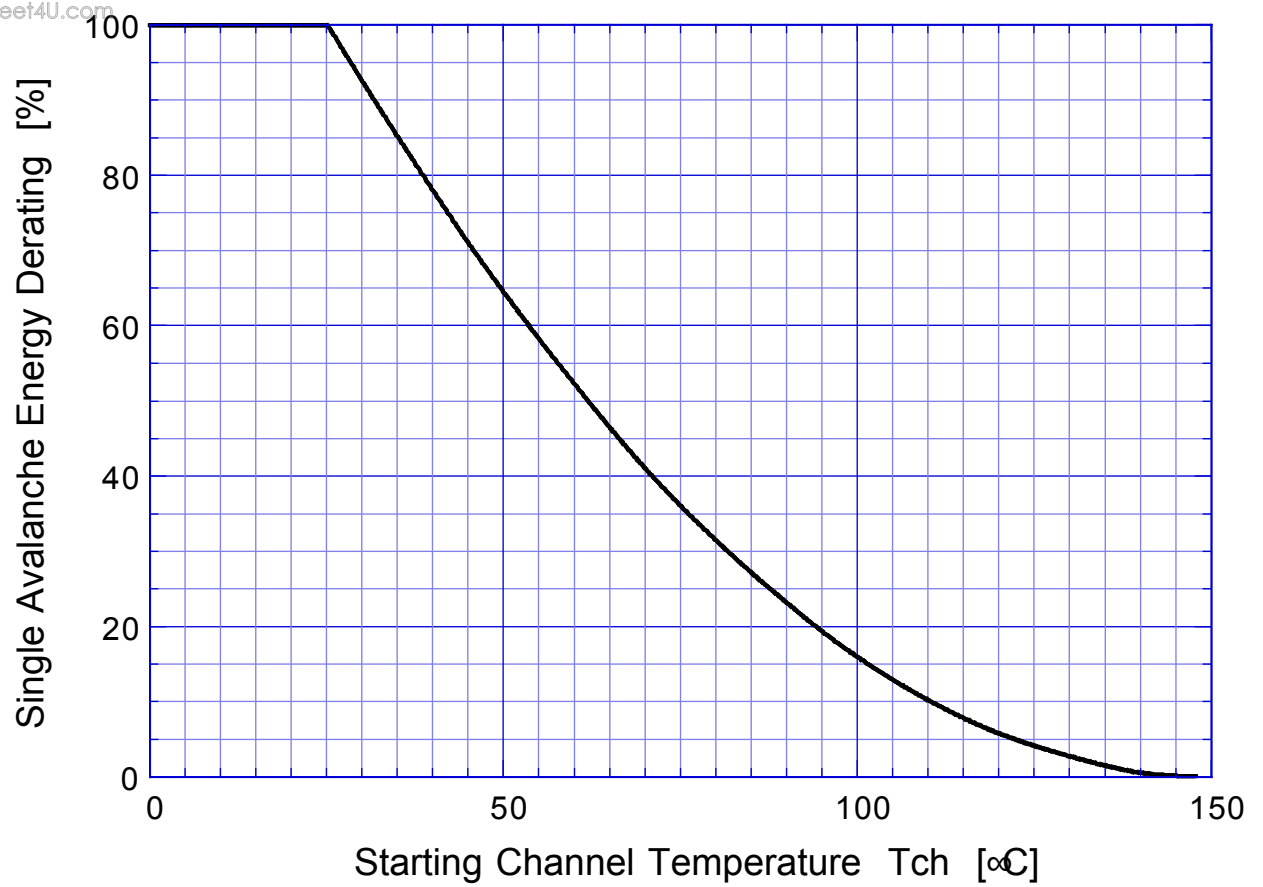


2SK2333 Transient Thermal Impedance

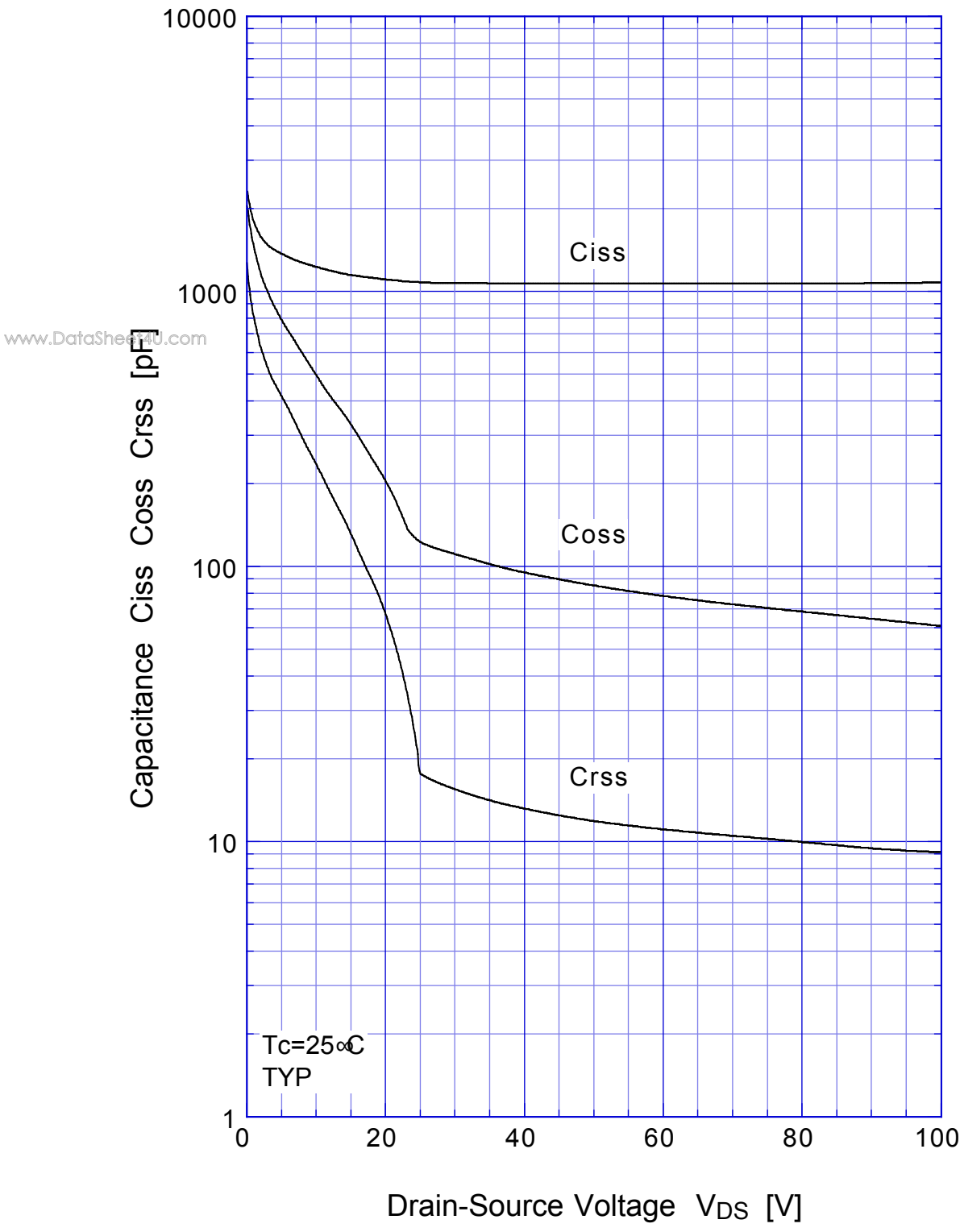


2SK2333 Single Avalanche Energy Derating

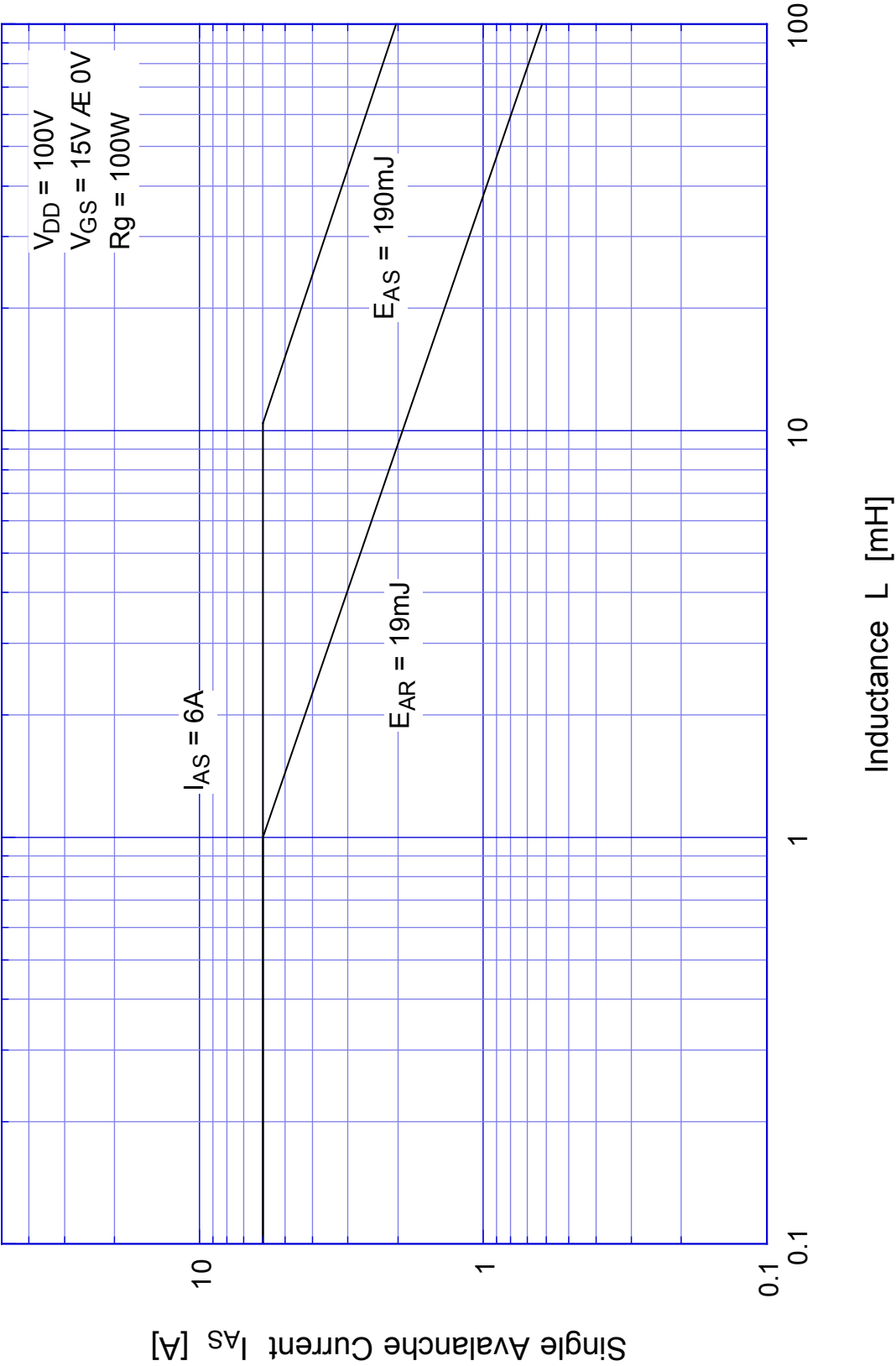
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2SK2333 Capacitance



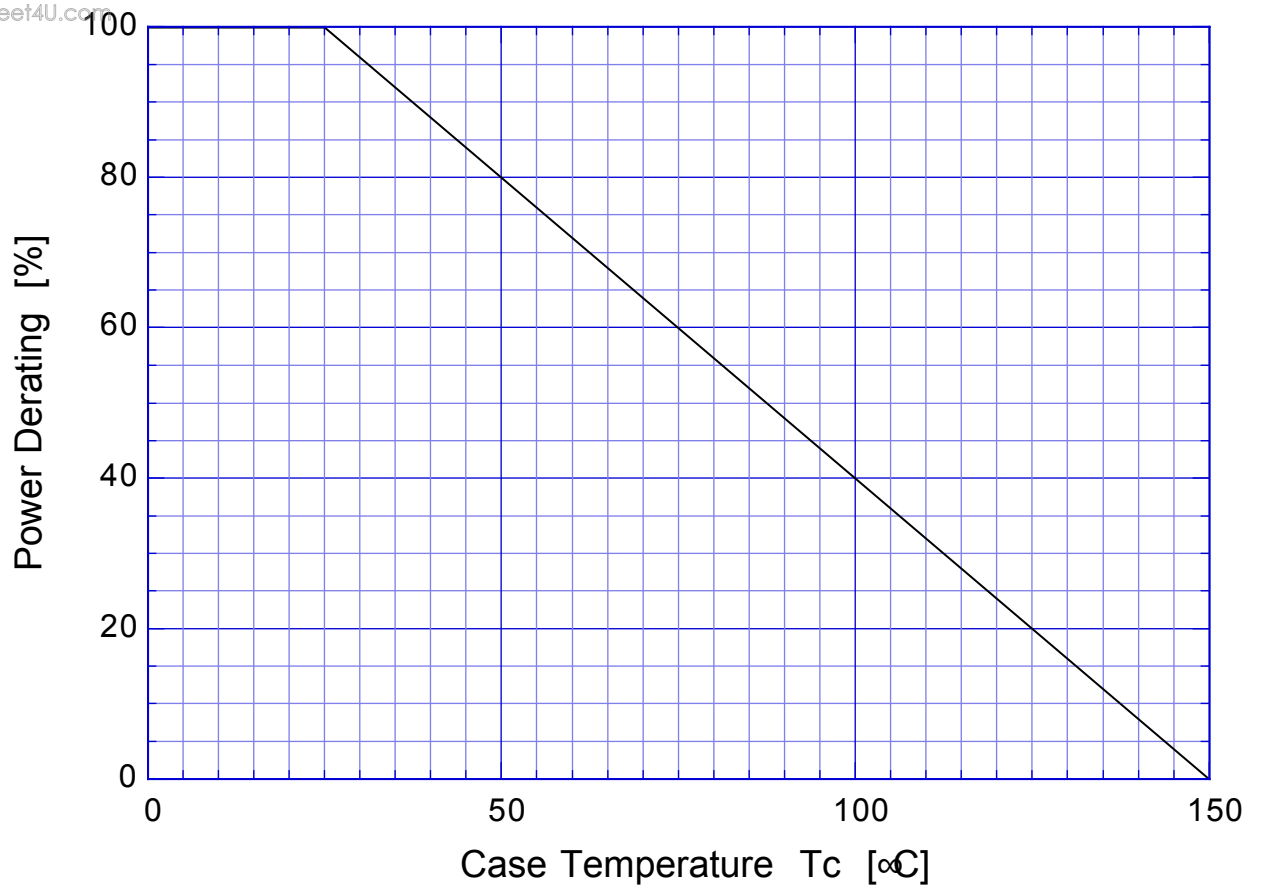
2SK2333 Single Avalanche Current - Inductive Load



2SK2333

Power Derating

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Gate Charge Characteristics

