SHINDENGEN

HVX-2 Series Power MOSFET

N-Channel Enhancement type

2SK2674
(F7W90HVX2)

900V 7A

FEATURES

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

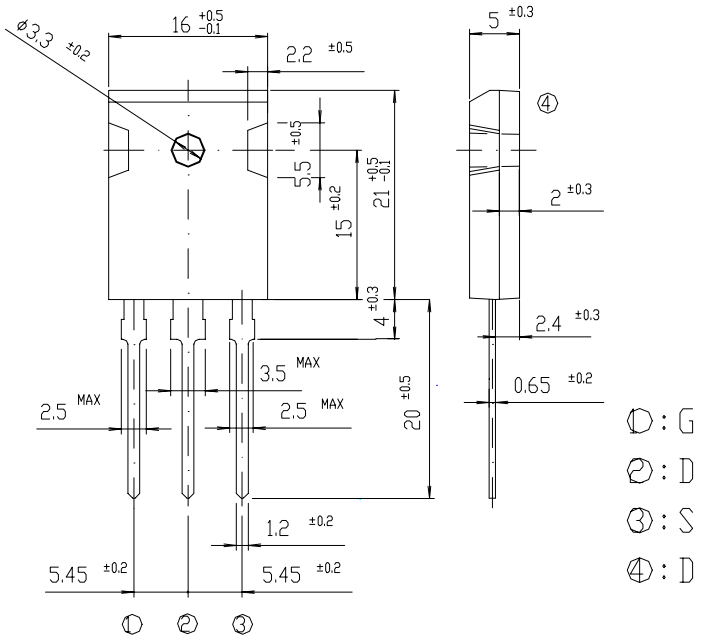
APPLICATION

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

OUTLINE DIMENSIONS

Case : MTO-3P

(Unit : mm)



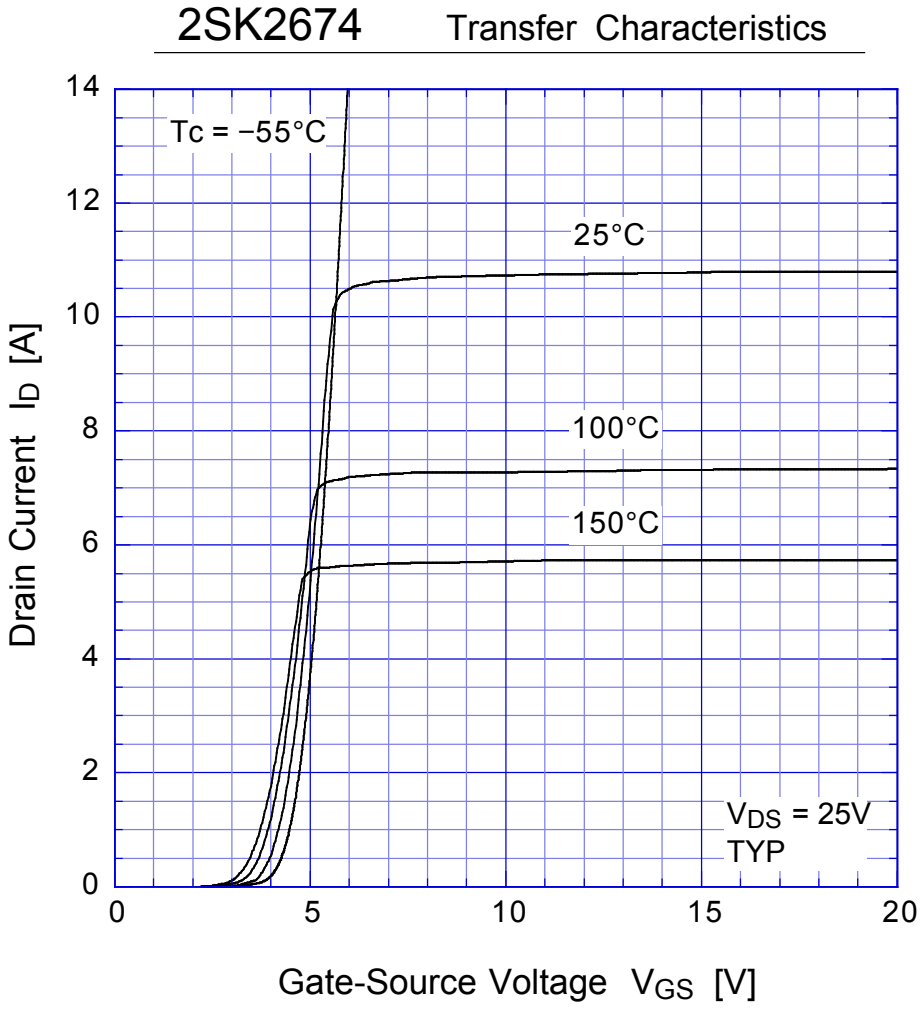
RATINGS

●Absolute Maximum Ratings (Tc = 25℃)

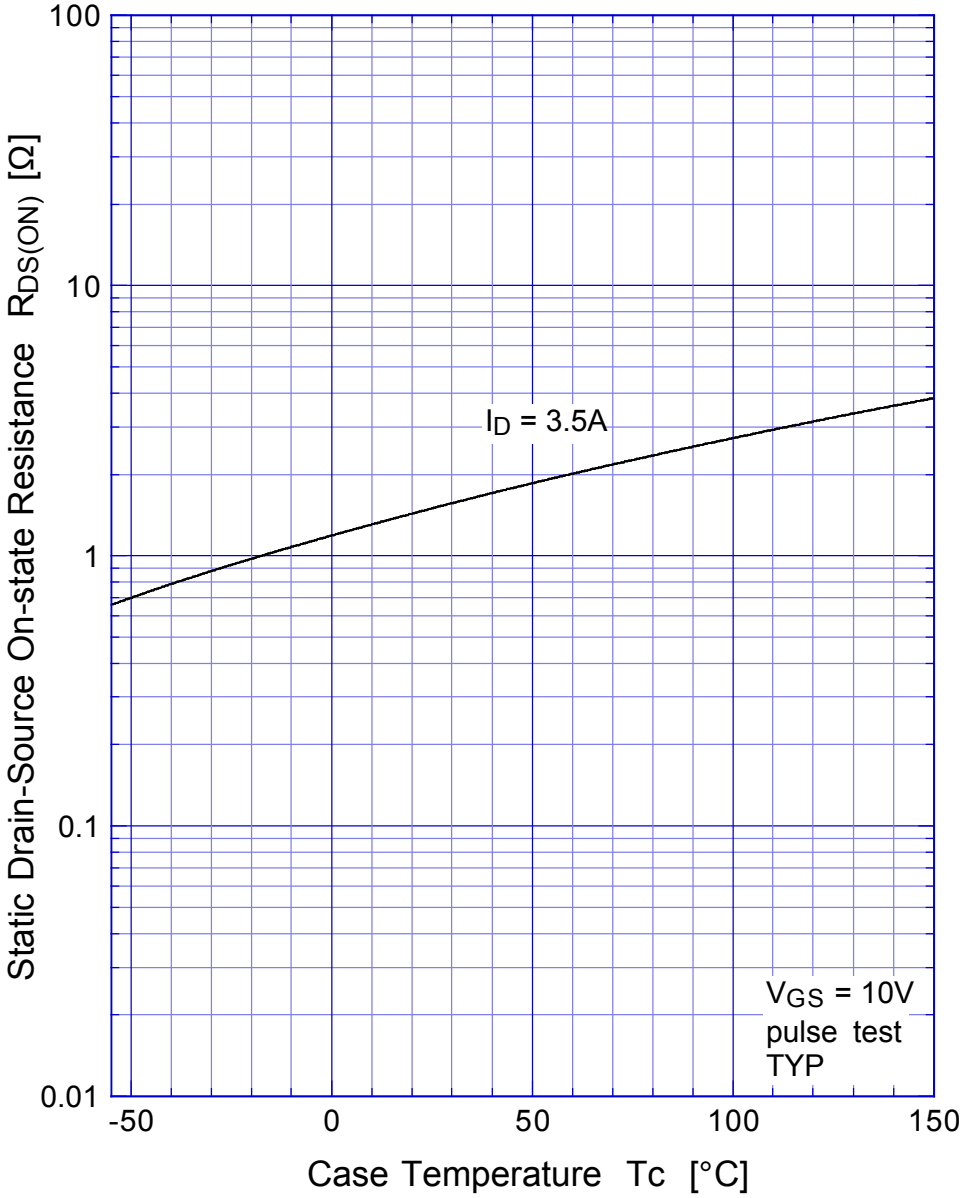
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T_{stg}		−55～150	℃
Channel Temperature	T_{ch}		150	
Drain-Source Voltage	V_{DSS}		900	V
Gate-Source Voltage	V_{GSS}		±30	
Continuous Drain Current(DC)	I_D		7	A
Continuous Drain Current(Peak)	I_{DP}	Pulse width≦10μs, Duty cycle≦1/100	14	
Continuous Source Current(DC)	I_S		7	
Total Power Dissipation	P_T		100	W
Repetitive Avalanche Current	I_{AR}	T_{ch} = 150℃	7	A
Single Avalanche Energy	E_{AS}	T_{ch} = 25℃	160	mJ
Repetitive Avalanche Energy	E_{AR}	T_{ch} = 25℃	16	
Mounting Torque	TOR	(Recommended torque :0.5 N·m)	0.8	N·m

●Electrical Characteristics Tc = 25℃

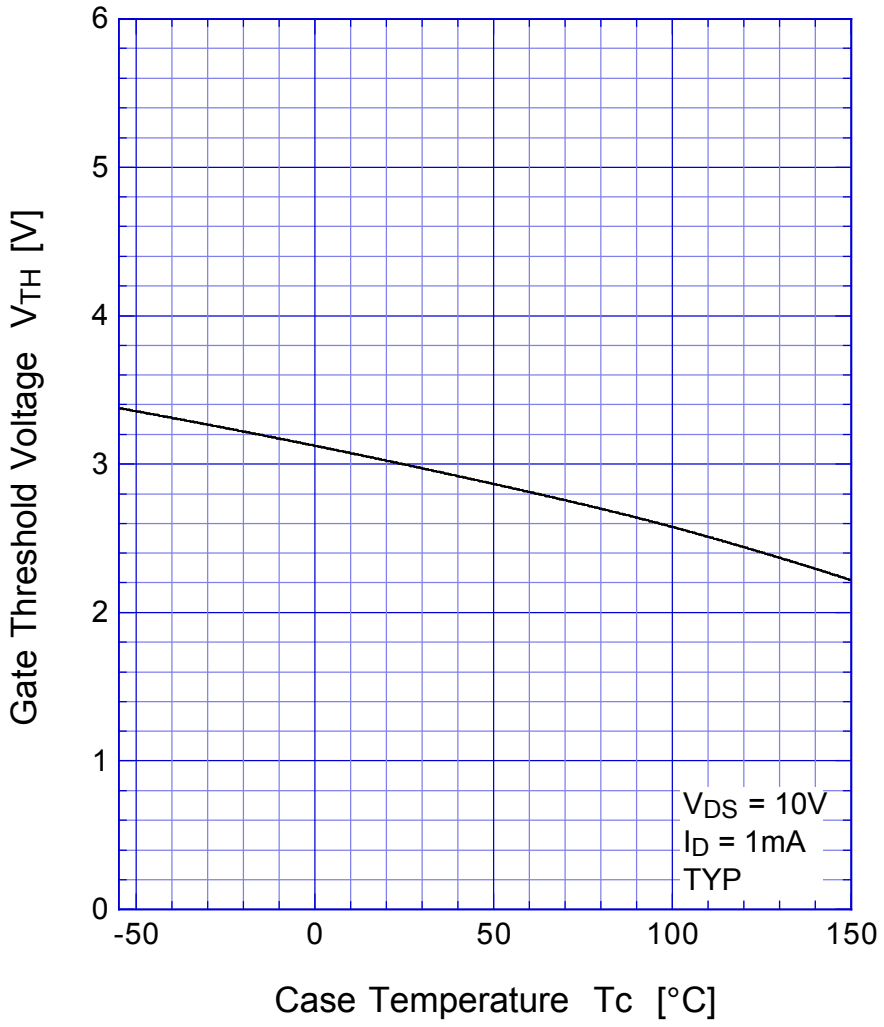
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D = 1mA, V_{GS} = 0V	900			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 900V, V_{GS} = 0V			250	μA
Gate-Source Leakage Current	I_{GSS}	V_{GS} = ±30V, V_{DS} = 0V			±0.1	
Forward Transconductance	g_{fs}	I_D = 3.5A, V_{DS} = 10V	3.6	6.0		S
Static Drain-Source On-state Resistance	$R_{DS(ON)}$	I_D = 3.5A, 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 = 3.5A, V_{GS} = 0V			1.5	
Thermal Resistance	θ jc	junction to case			1.25	℃/W
Total Gate Charge	Q_g	V_{DD} = 400V, V_{GS} = 10V, I_D = 7A		63		nC
Input Capacitance	C_{iss}	V_{DS} = 25V, V_{GS} = 0V, f = 1MHz		1450		pF
Reverse Transfer Capacitance	C_{rss}			37		
Output Capacitance	C_{oss}			150		
Turn-On Time	t_{on}	I_D = 3.5A, R_L = 43Ω, V_{GS} = 10V		95	170	ns
Turn-Off Time	t_{off}			330	560	



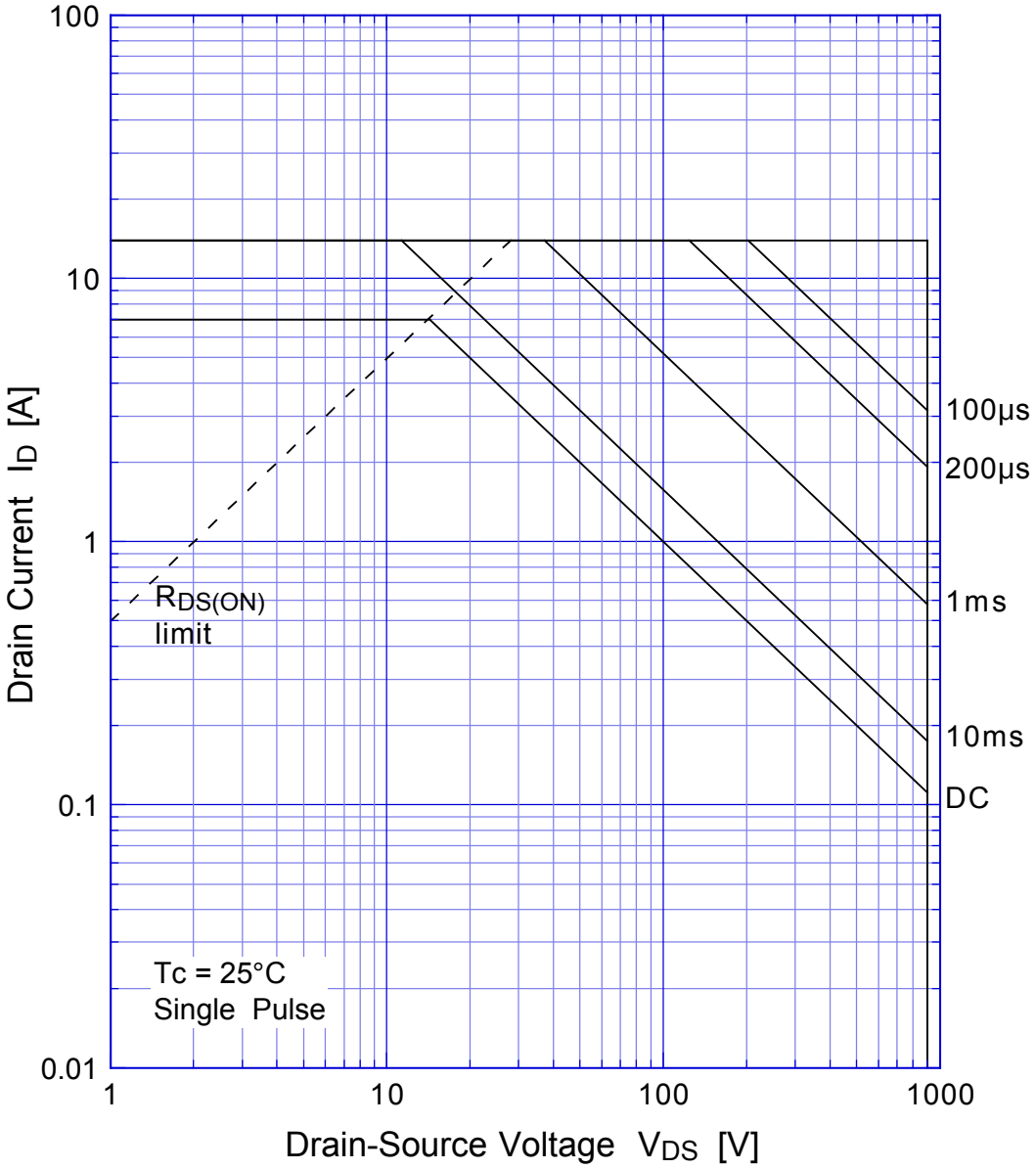
2SK2674 Static Drain-Source On-state Resistance



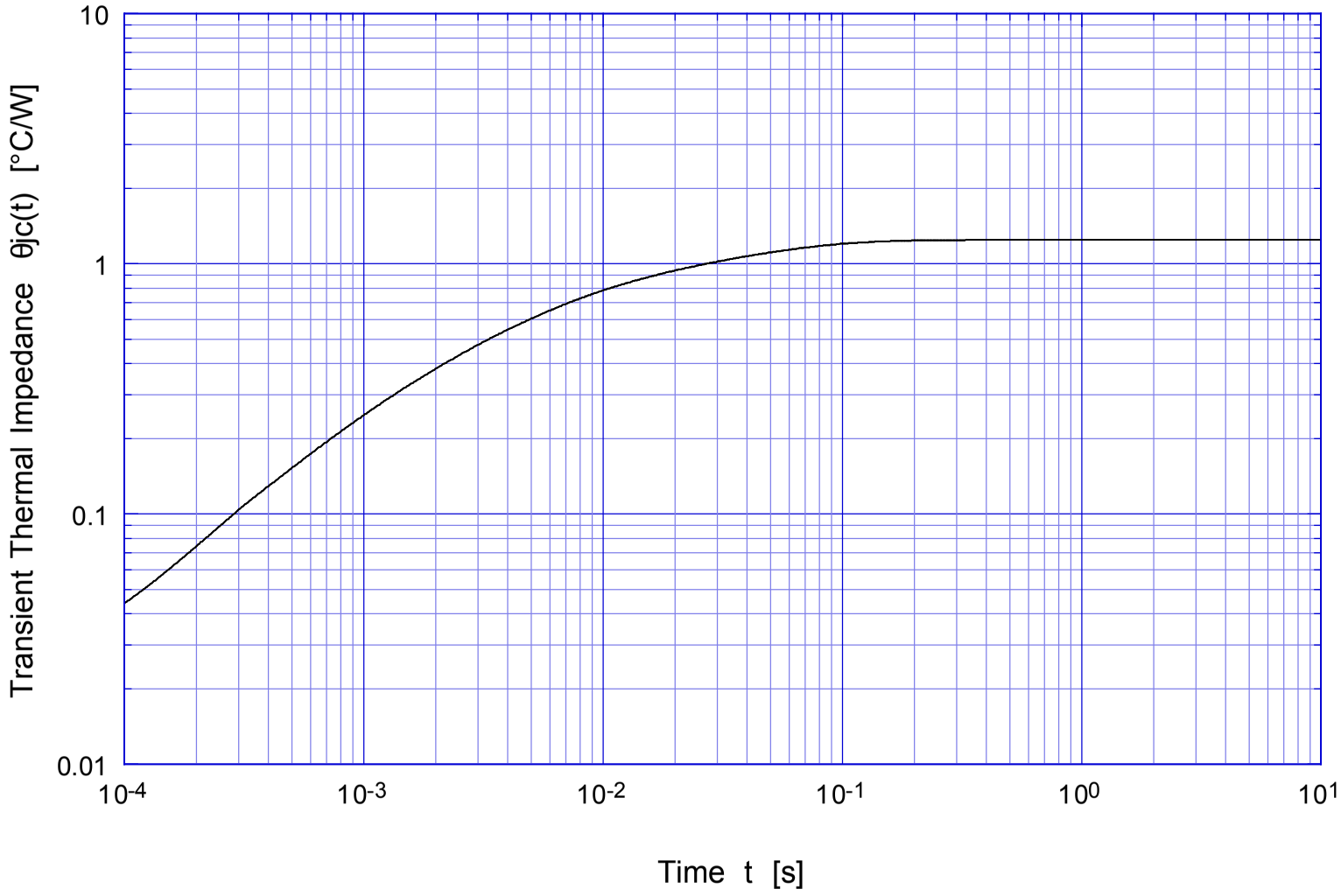
2SK2674 Gate Threshold Voltage



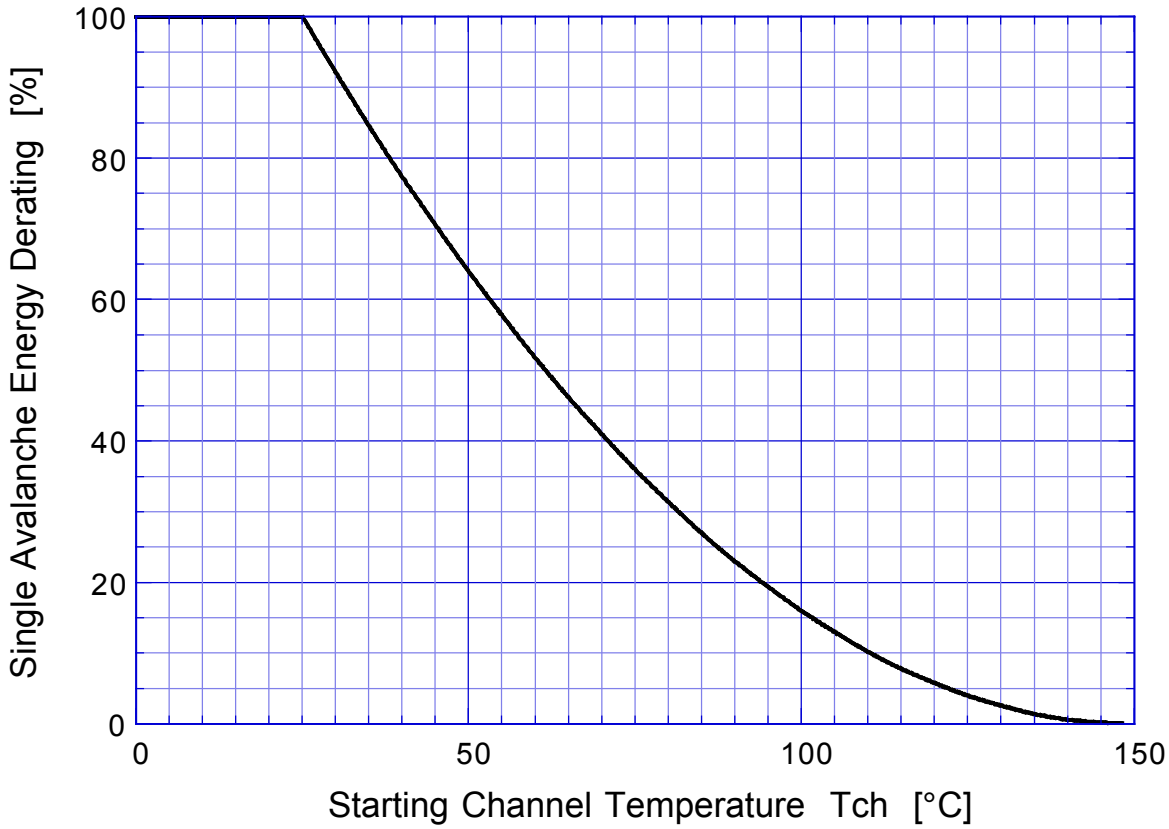
2SK2674 Safe Operating Area

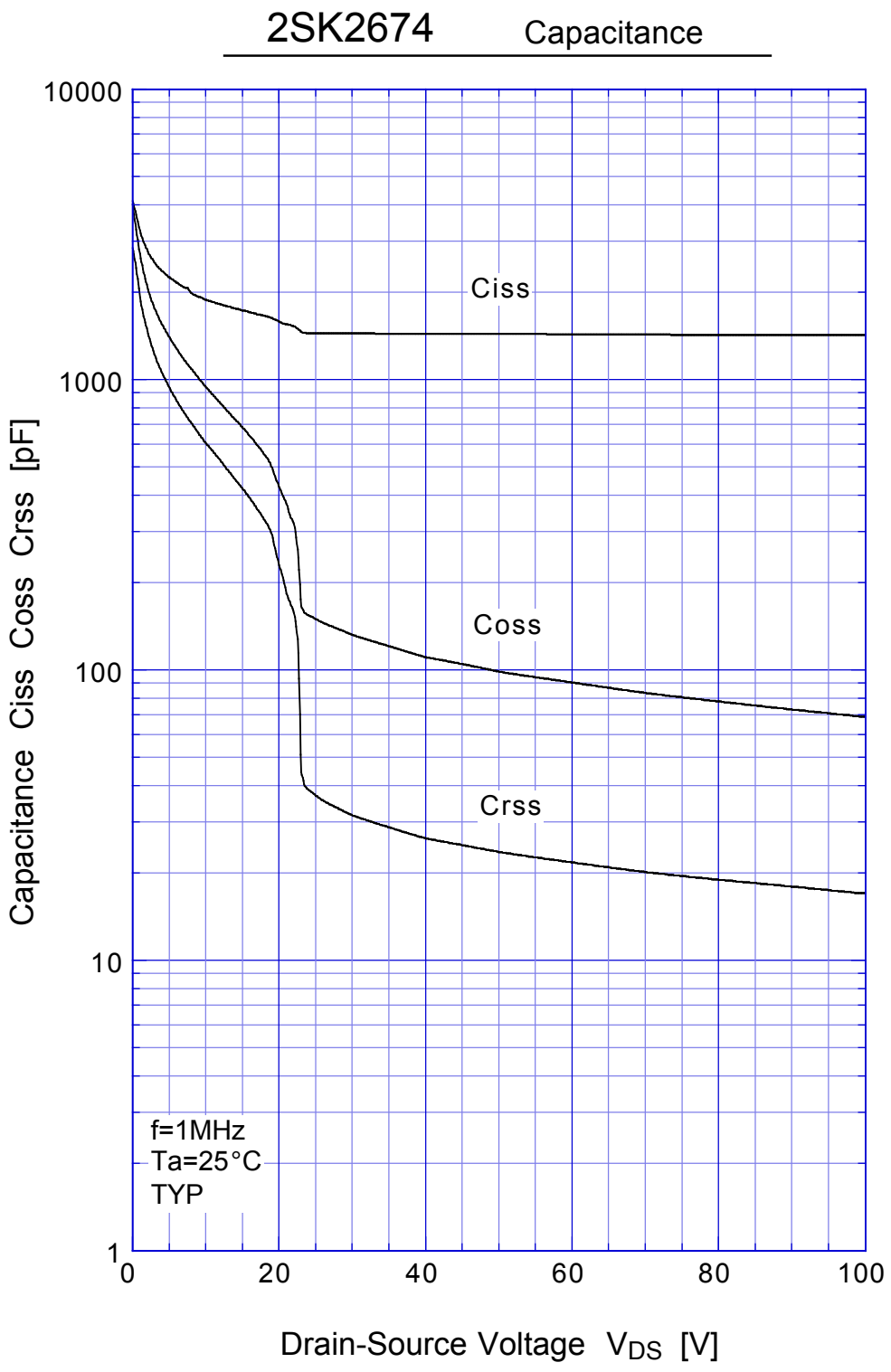


2SK2674 Transient Thermal Impedance

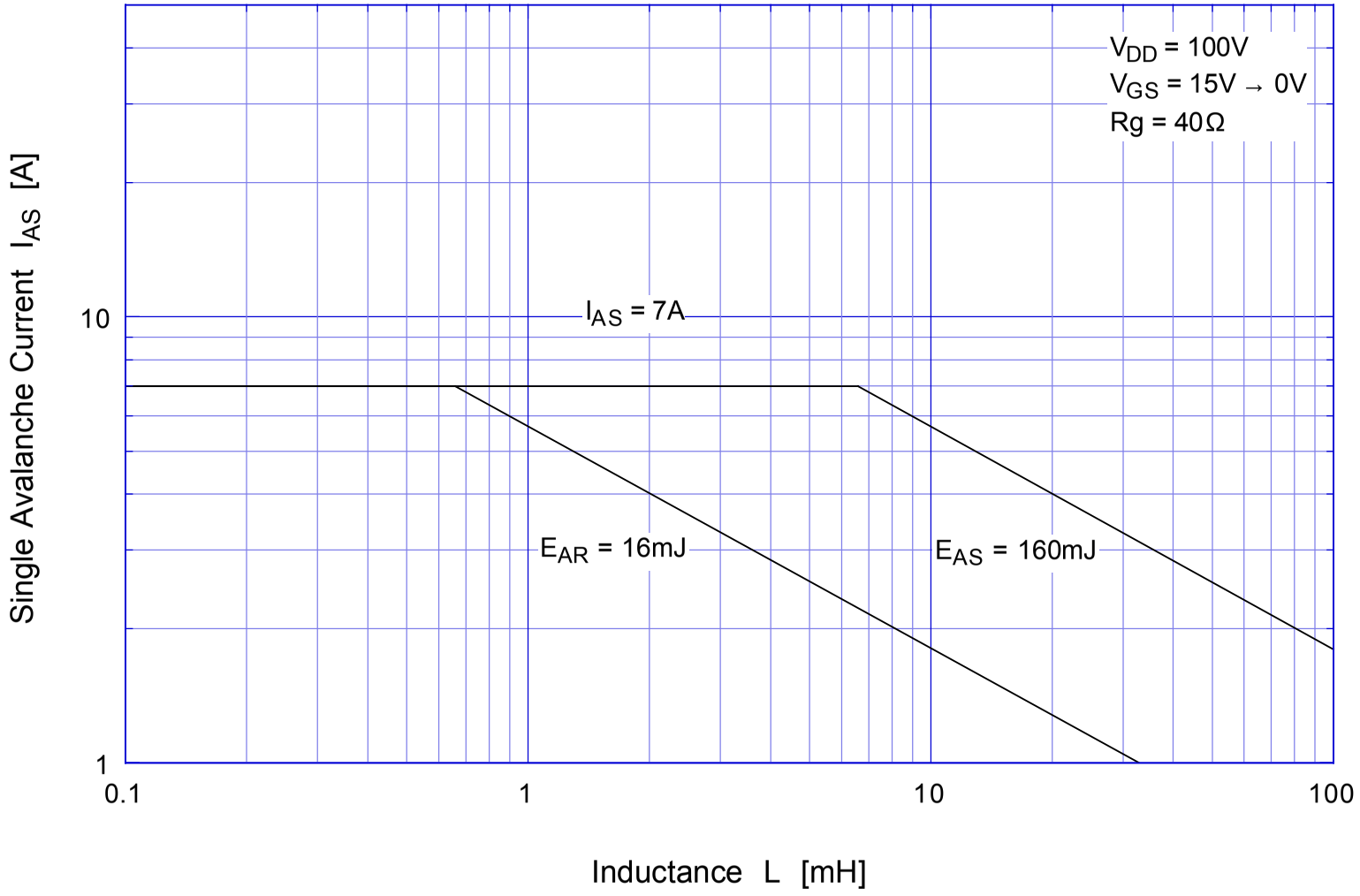


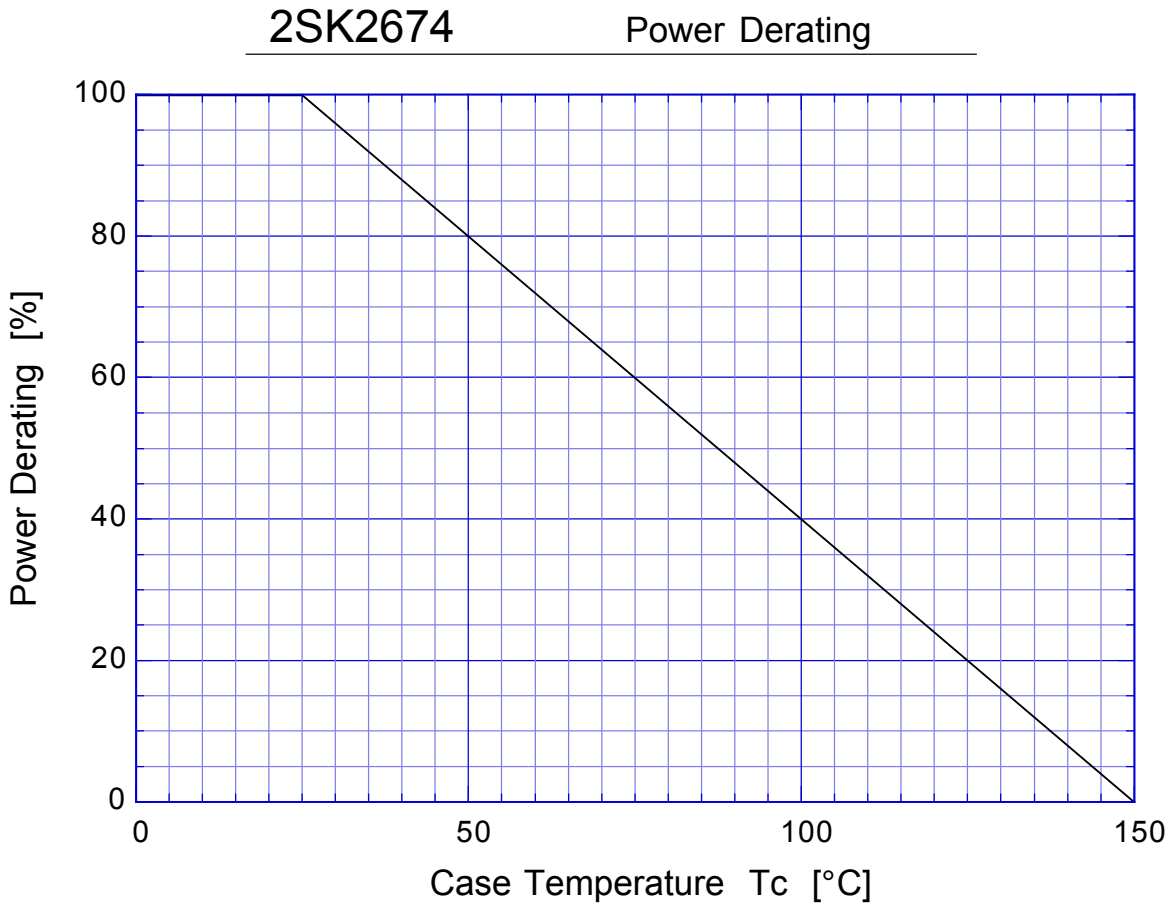
2SK2674 Single Avalanche Energy Derating





2SK2674 Single Avalanche Current - Inductive Load





2SK2674 Gate Charge Characteristics