

2SK2180
(F3V50VX2)

500V3A

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

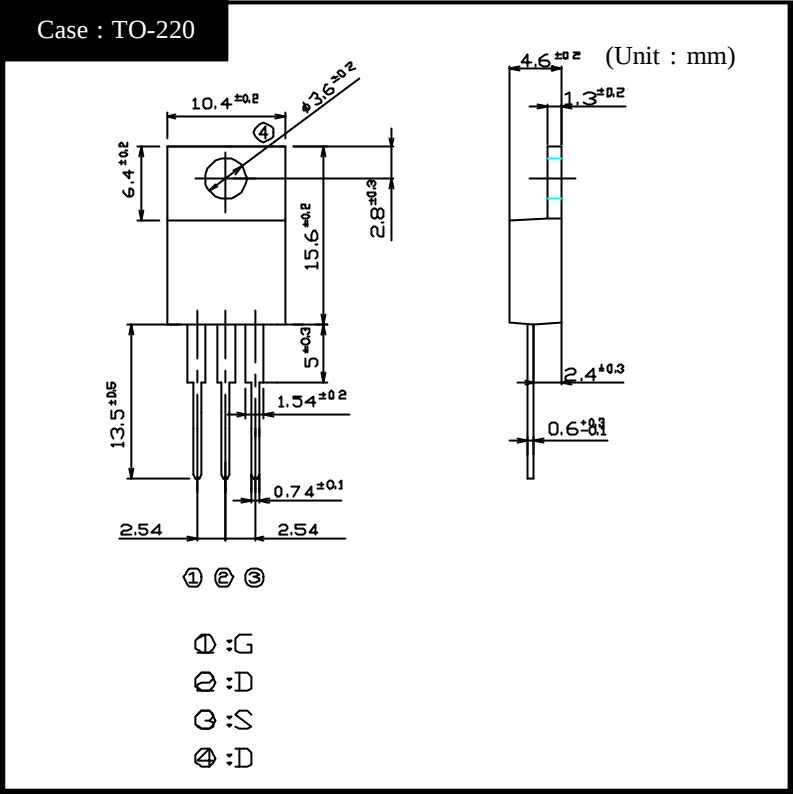
- Switching power supply of AC 100V input
- High voltage power supply
- Inverter

RATINGS

- Absolute Maximum Ratings (Tc = 25)

Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	Tstg		-55 ~ 150	
Channel Temperature	Tch		150	
Drain-Source Voltage	V _{DSS}		500	V
Gate-Source Voltage	V _{GSS}		± 30	
Continuous Drain Current (DC)	I _D		3	A
Continuous Drain Current (Peak)	I _{DP}		9	
Continuous Source Current (DC)	I _S		3	
Total Power Dissipation	P _T		40	W
Single Pulse Avalanche Current	I _{AS}	Tch = 25	3	A
Mounting Torque	TOR	(Recommended torque : 0.3 N·m)	0.5	N·m

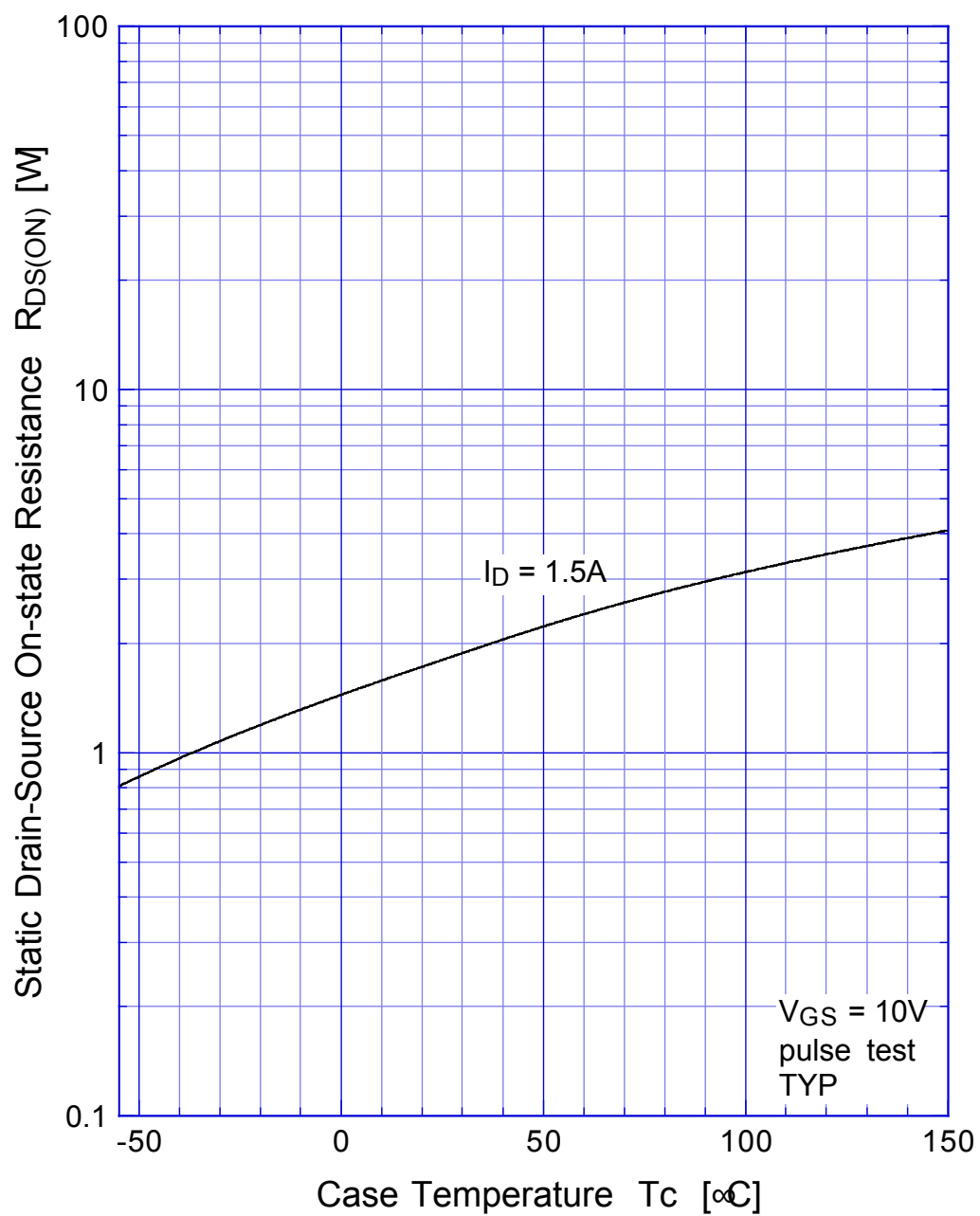
OUTLINE DIMENSIONS



●Electrical Characteristics T_c = 25°C

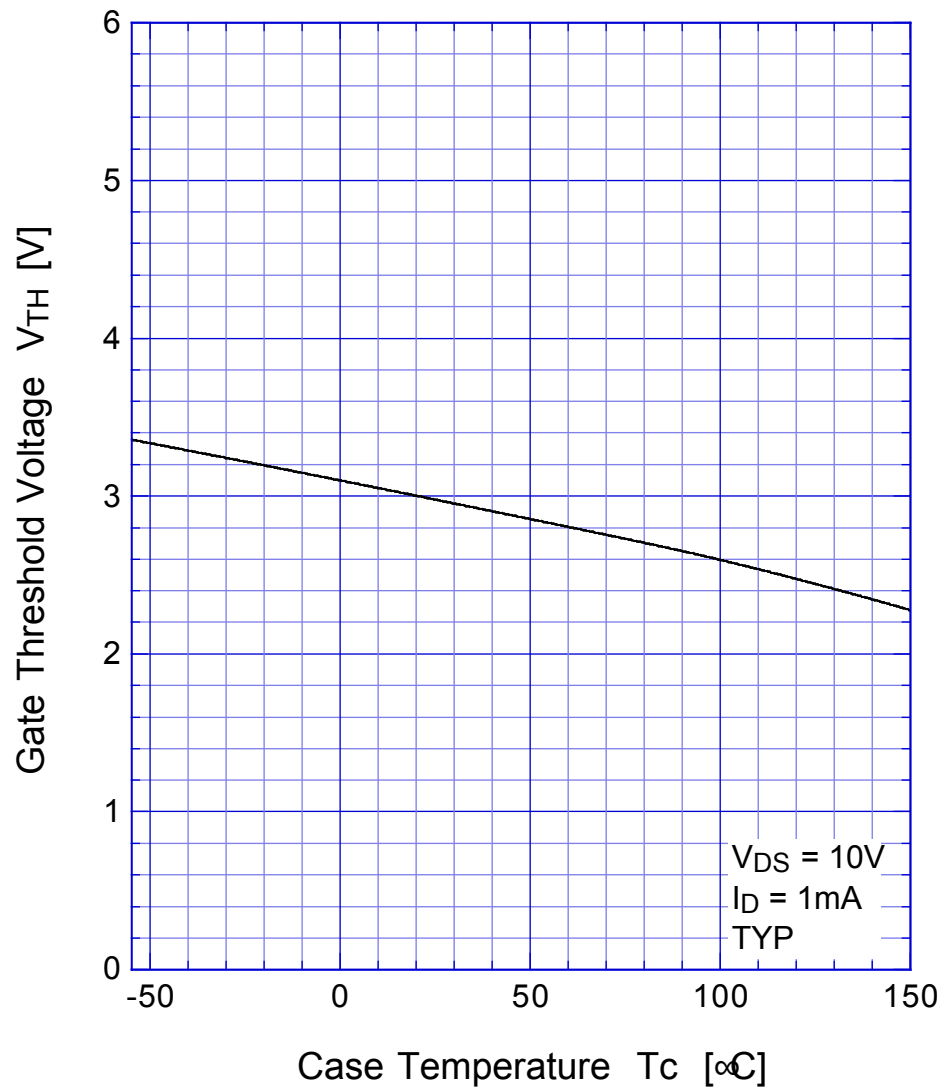
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V(BR)DSS	I _D = 1mA, V _{GS} = 0V	500			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 500V, V _{GS} = 0V			250	μ A
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±30V, V _{DS} = 0V			±0.1	
Forward Transconductance	g _{fs}	I _D = 1.5A, V _{DS} = 10V	0.9	2.1		S
Static Drain-Source On-state Resistance	R _{DS(ON)}	I _D = 1.5A, V _{GS} = 10V		1.8	2.3	Ω
Gate Threshold Voltage	V _{TH}	I _D = 0.3mA, V _{DS} = 10V	2.5	3.0	3.5	V
Source-Drain Diode Forwade Voltage	V _{SD}	I _S = 1.5A, V _{GS} = 0V			1.5	
Thermal Resistance	θ _{jc}	junction to case			3.12	°C/W
Total Gate Charge	Q _g	V _{DD} = 400V, V _{GS} = 10V, I _D = 3A		15		nC
Input Capacitance	C _{iss}	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz		400		pF
Reverse Transfer Capacitance	C _{rss}			30		
Output Capacitance	C _{oss}			90		
Turn-On Time	t _{on}	I _D = 1.5A, V _{GS} = 10V, R _L = 100 Ω		45	80	ns
Turn-Off Time	t _{off}			90	140	

2SK2180 Static Drain-Source On-state Resistance

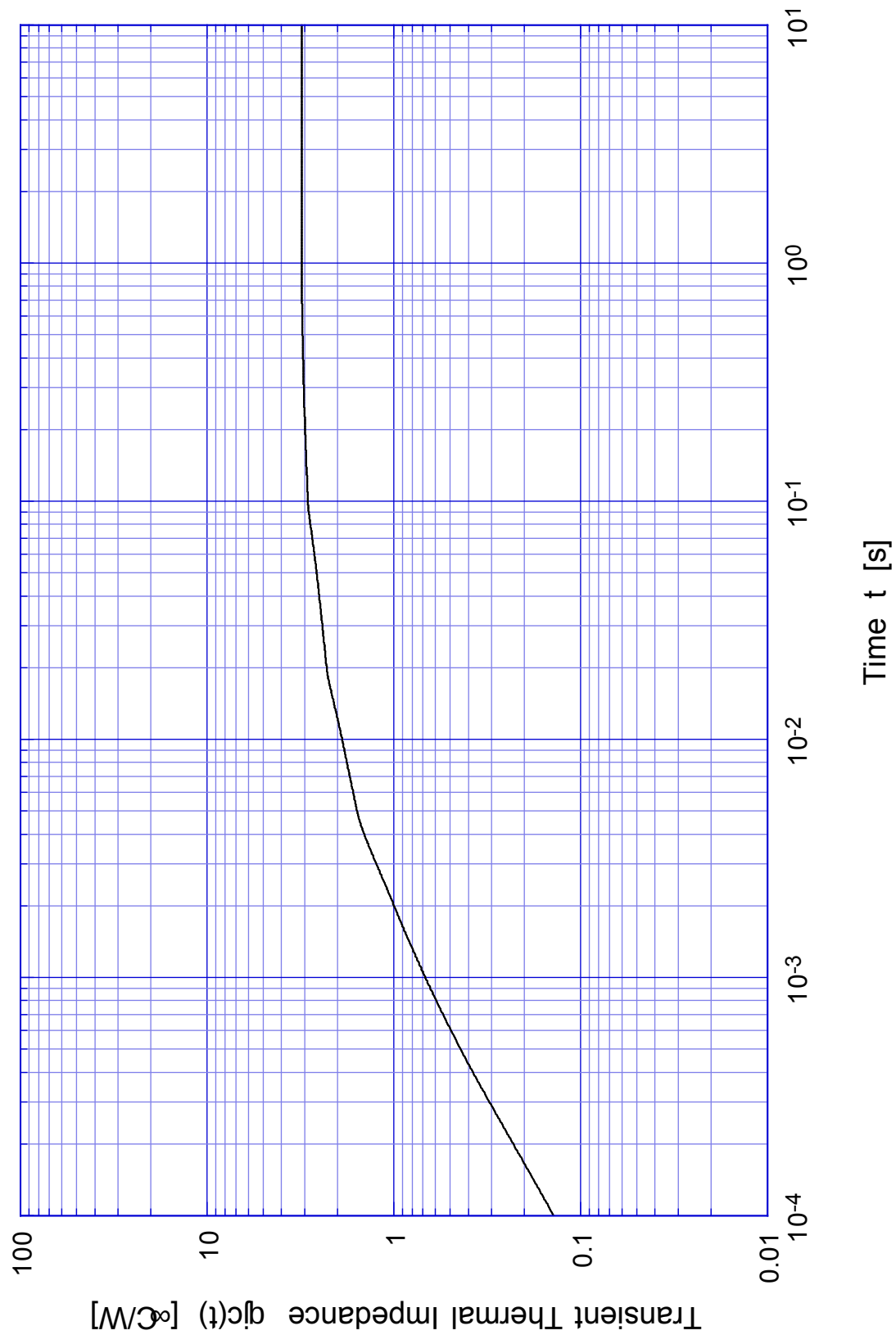


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Gate Threshold Voltage



2SK2180 Transient Thermal Impedance



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Power Derating

