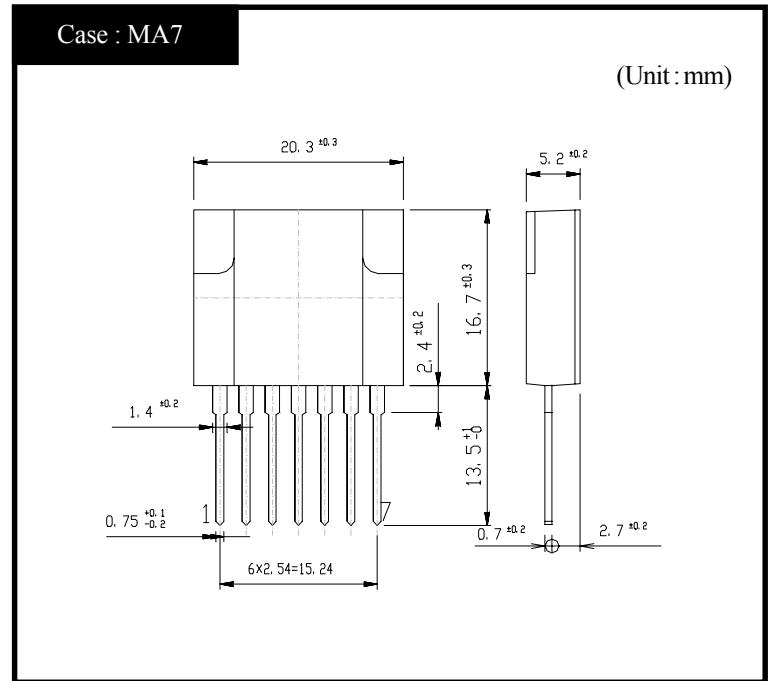


# MA4520

### OUTLINE DIMENSIONS



### RATINGS

#### ●Absolute Maximum Ratings

Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T <sub>stg</sub>		-30~125	°C
Operating Temperature	T <sub>op</sub>		-20~125	°C
Junction Temperature	T <sub>j</sub>		150	°C
Peak Input Voltage	V <sub>in</sub>	②+,③-,⑤-	500	V
Input Current	I <sub>in</sub>	DC ②+,③-	5	A
		Pulse ②+,③- Duty 1/2	8	A
Maximum Power Dissipation	P <sub>D</sub>	T <sub>a</sub> =25°C	3	W
	P <sub>D</sub>	Heatsink T <sub>c</sub> =100°C	17	W
Dielectric Strength	V <sub>dis</sub>	Terminals To Case AC 1 min	2	kV
Insulation Resistance		Terminals To Case 500VDC	100	MΩ
Max Voltage ④ to ⑥	V④•⑥	④+,⑥-	6	V
Max Current ⑥ to ④	I⑥•④	⑥+,④- (Peak) Duty Max 1/2	200	mA
Reverse Current	I <sub>Z</sub>	⑤+,④-	MAX 20	mA

#### ●Electrical Characteristics (T<sub>c</sub>=25°C)

Item	Symbol	Conditions	Ratings	Unit	
Q1	Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =500V, V <sub>GS</sub> =0V, ②+,③-	MAX 250 TYP (1.1)	μA Ω
	Static Drain-Source On-State Resistance	R <sub>DS(on)</sub>	I <sub>D</sub> =2.5A, ②+,③- V <sub>GS</sub> =10V, ⑤+,③-	MAX 1.4	Ω
	Thermal Resistance	θ <sub>jc</sub>	Junction to Case	MAX 2.9	°C/W
D1	Reverse Current	I <sub>R</sub>	V <sub>R</sub> =500V, ①+,②-	MAX 10	μA
	Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =0.6A, ②+,①-	MAX 1.7	V
Q2	Fold Back Detection Voltage		③+,④-	TYP 0.7	V

●Standard Operating Condition•Design Standard For Application Circuit

Item	Conditions	Ratings	Unit
Input Rated Voltage		AC90~132	V
Output Nominal Voltage		12	V
Output Nominal Current		4	A

●Standard Operating Condition•Standard Operating Characteristics (Ta=25°C)

Item	Conditions	Ratings	Unit		
Minimum Input Full Load Output Voltage	Vin=90V, I <sub>O</sub> =4.0A	12.0±0.6	V	Fig 1, ① Refer	
Maximum Input Light Load Output Voltage	Vin=132V, I <sub>O</sub> =0.40A	12.0±0.6	V	Fig 1, ② Refer	
Over Current Protection	Foldback Current	Vin=132V, V <sub>O</sub> =10V	MAX 6.0	A	Fig 1, ③ Refer
	Short Circuit	Vin=132V, R <sub>O</sub> =0.5 Ω	Nodamage To Any Device, Automatic Recovery.	-	Fig 1, ④ Refer

Figure in ○=Terminal Sign

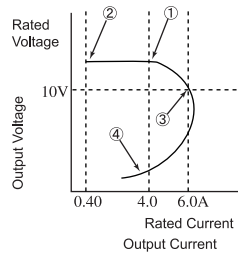
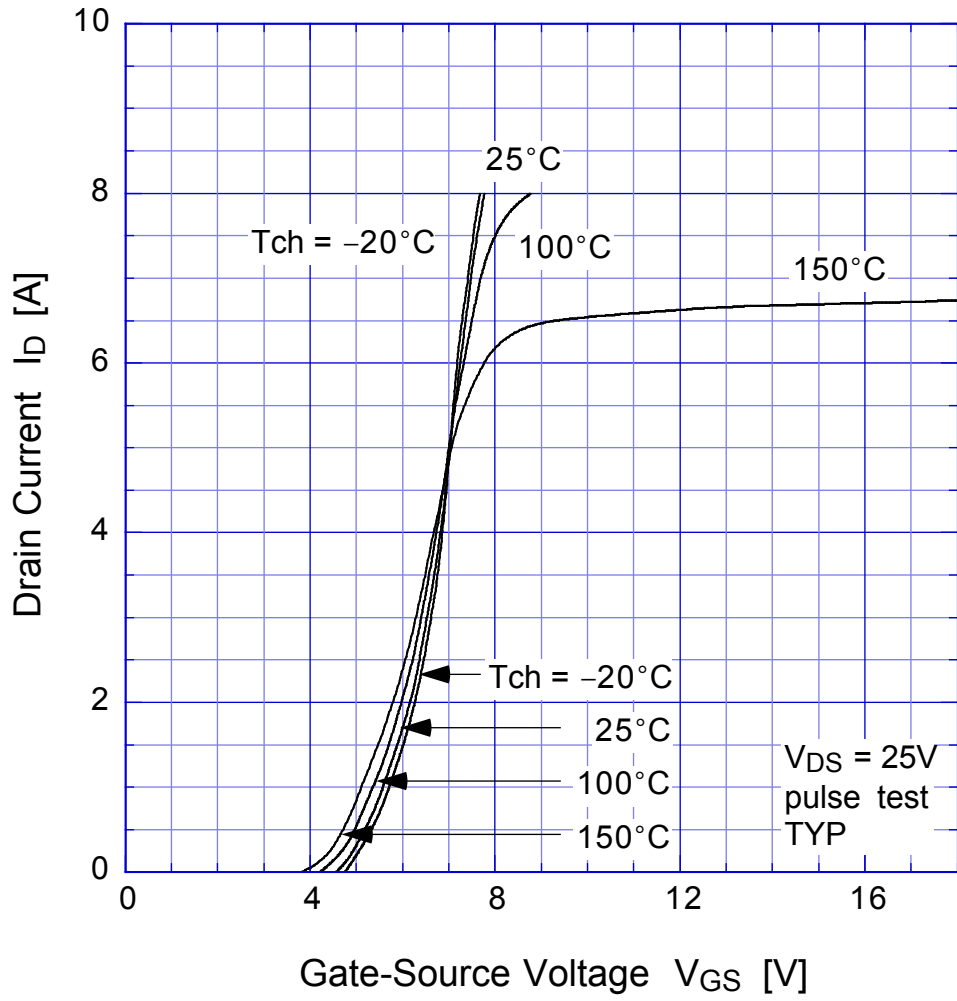


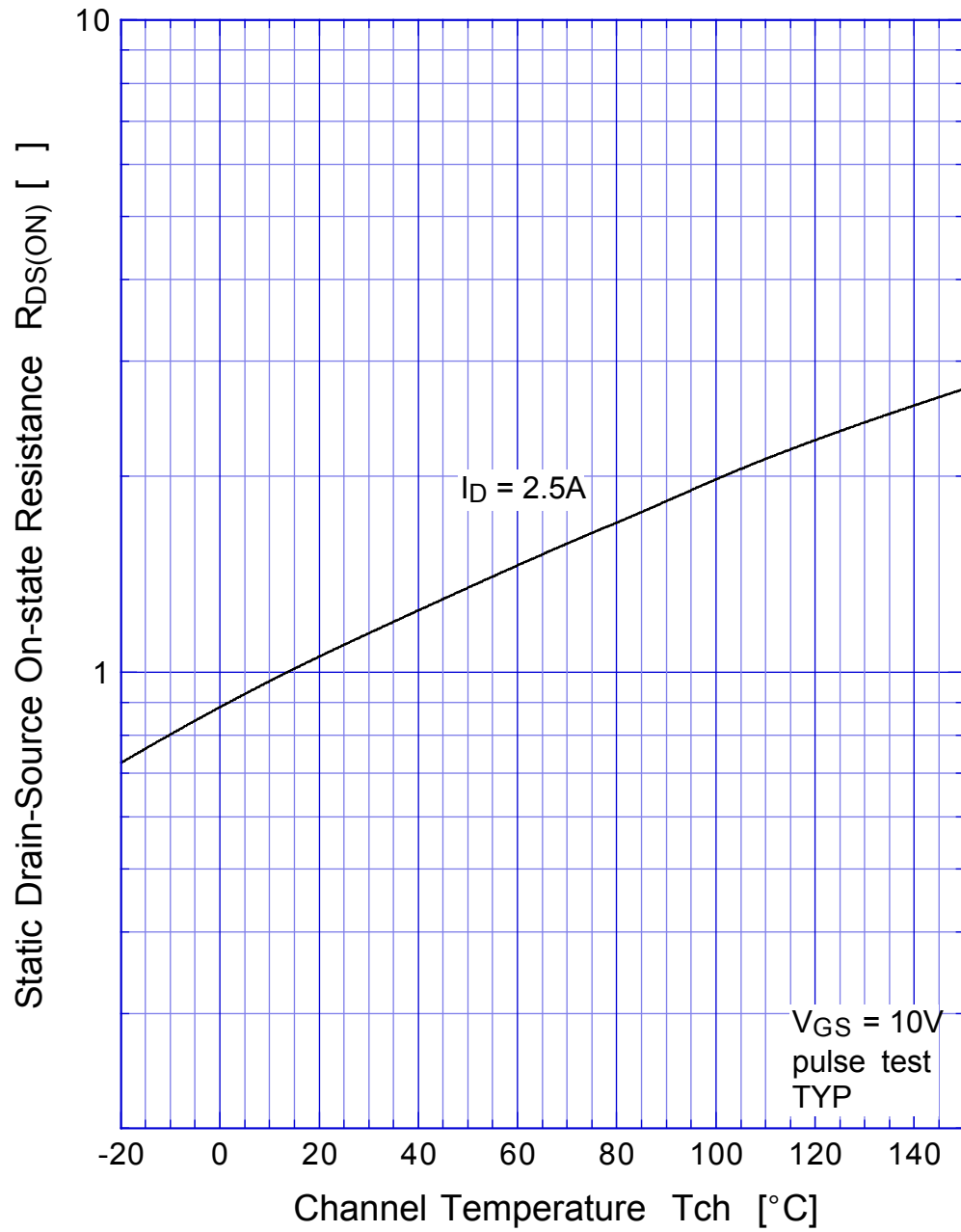
Fig1. Output Voltage/Current

# MA4520

# Transfer Characteristics

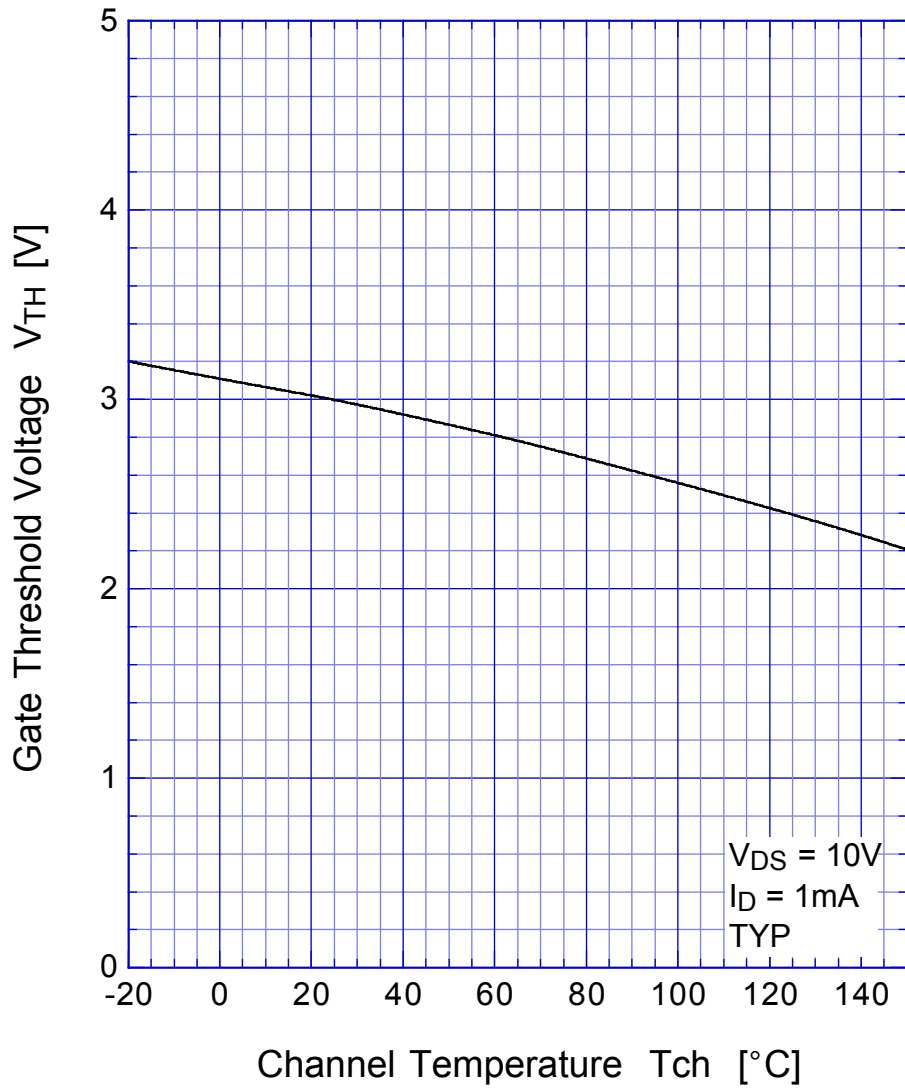


# MA4520 Static Drain-Source On-state Resistance



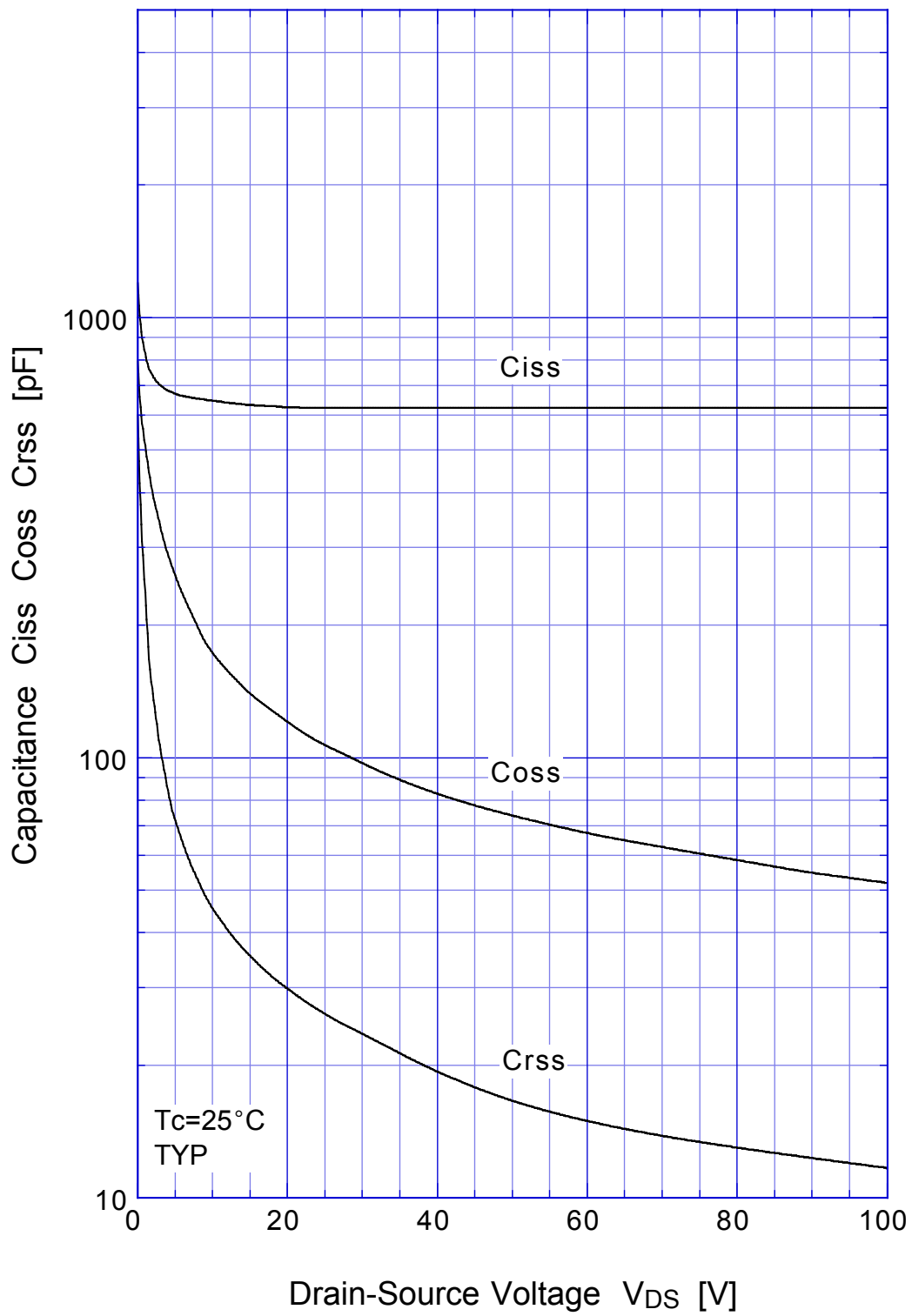
# MA4520

## Gate Threshold Voltage

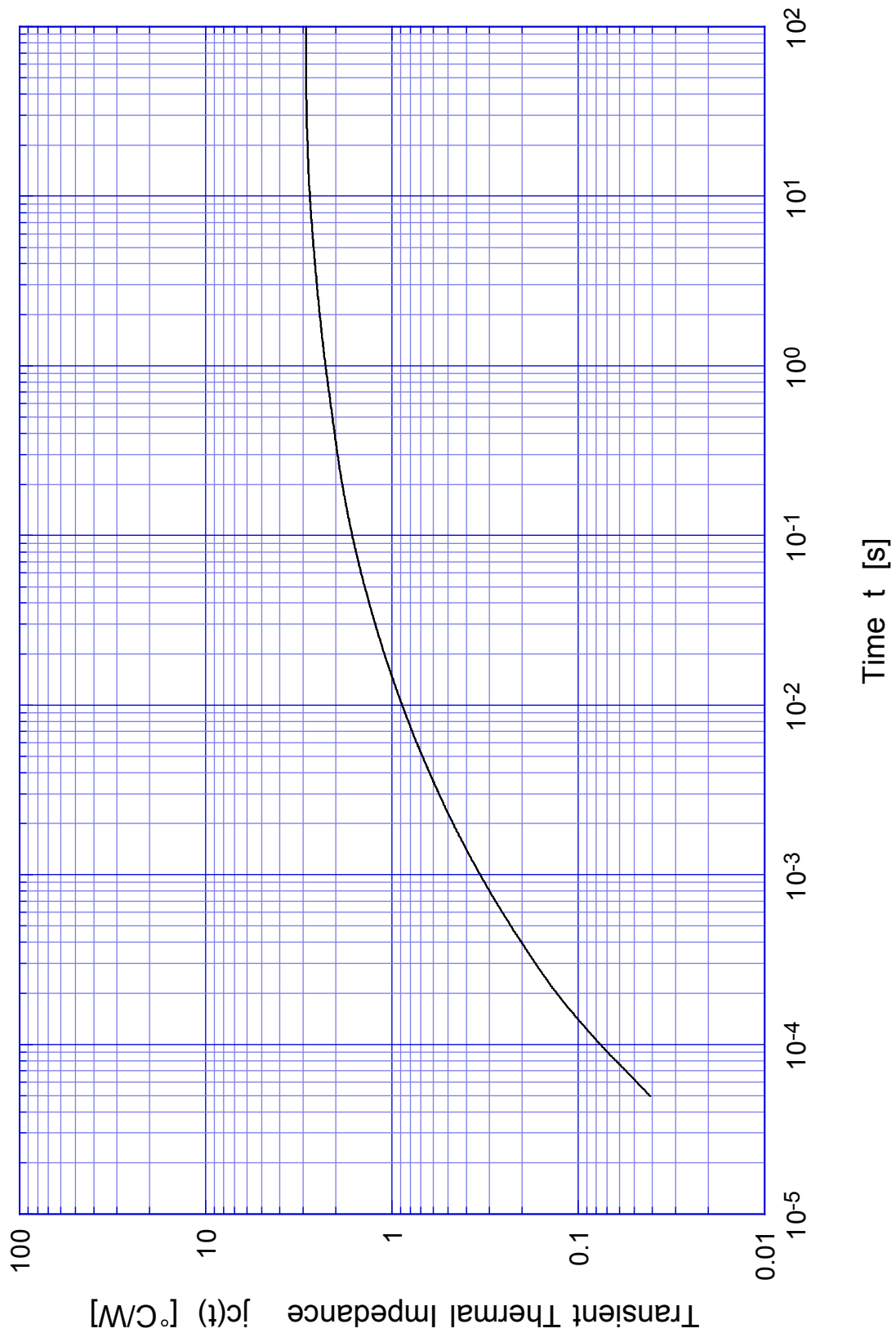


# MA4520

# Capacitance

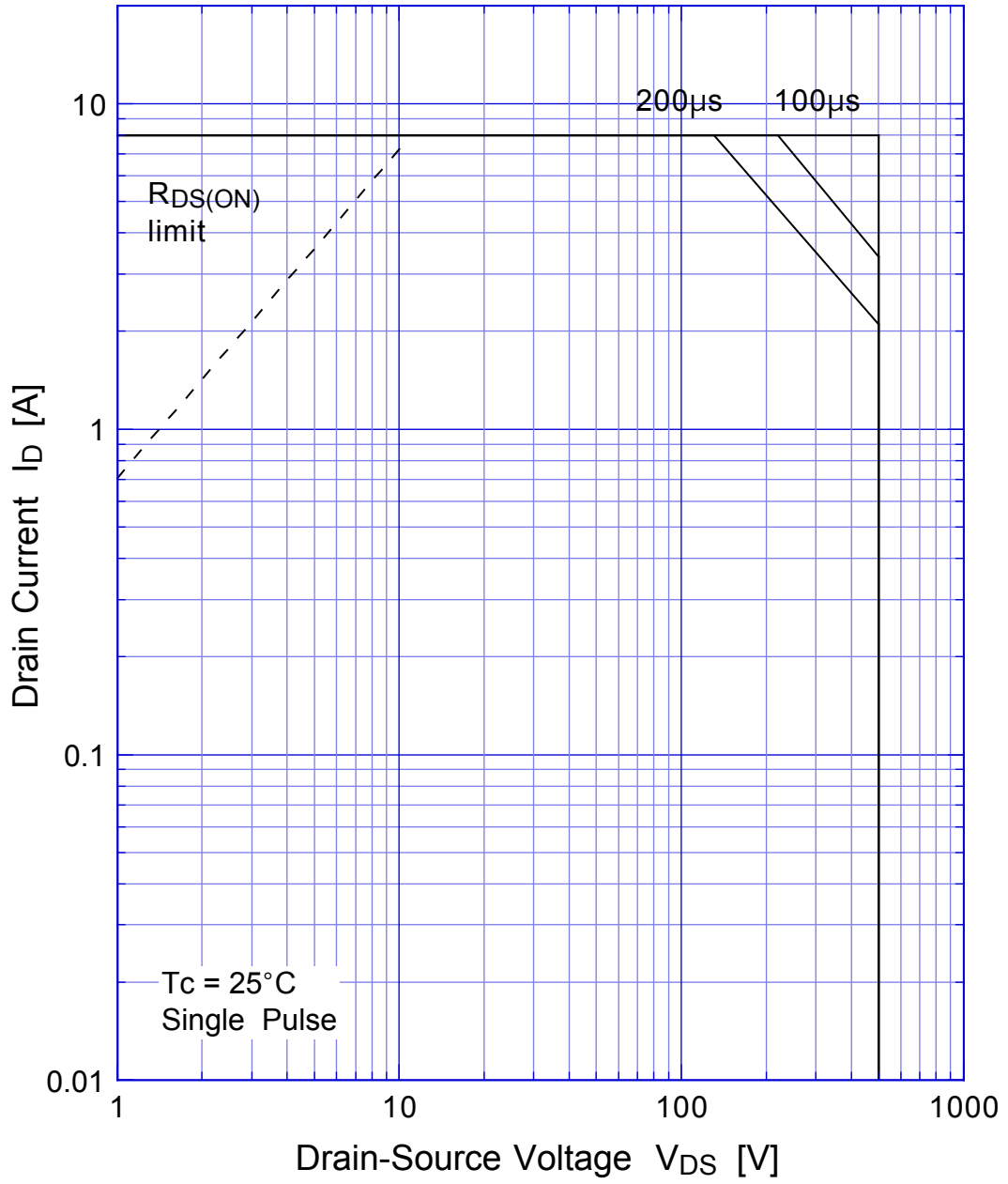


# MA4520 Transient Thermal Impedance



# MA4520

## Safe Operating Area





MA4520

Power Derating

