2SK796, 2SK796A

Silicon N-channel Power F-MOS FET

■ Features

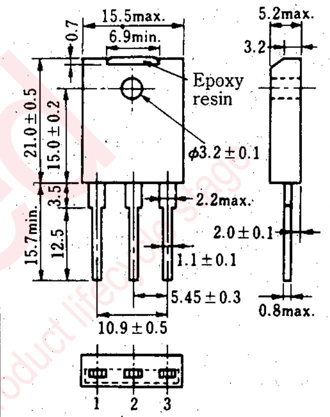
- Low ON resistance R_{DS} (on) : R_{DS} (on) = 3.0Ω (typ.)
- High switching rate : t_f = 40ns (typ.)
- No secondary breakdown
- High breakdown voltage, large power

■ Application

- No contact relay
- Solenoid drive
- Motor drive
- Control equipment
- Switching power source

■ Package Dimensions

Unit: mm



1 : Gate
2 : Drain
3 : Source
TOP-3 full pack package (c type)

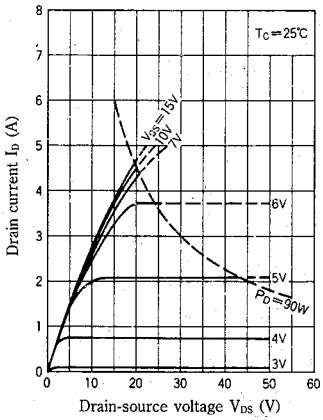
■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Drain-source voltage	2SK796	V_{DSS}	800	V
	2SK796A		900	
Gate-source voltage		V_{GSS}	±20	V
Drain current	DC	I_D	3	A
	Peak-to-peak value	I_{DP}	6	
Power dissipation	Tc=25℃	P_D	90	W
	Ta=25℃		3.0	
Channel temperature		T_{ch}	150	℃
Storage temperature		T_{stg}	−55～+150	℃

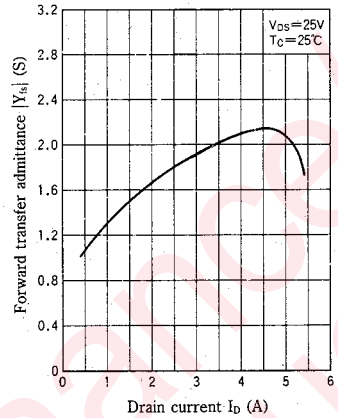
■ Electrical Characteristics (Tc=25°C)

Item		Symbol	Condition	min.	typ.	max.	Unit
Drain current		I_{DSS}	V_{DS}=640V, V_{GS}=0			0.1	mA
Gate-source current		I_{GSS}	V_{GS}=±20V, V_{DS}=0			±1	μA
Drain-source voltage	2SK796	V_{DSS}	I_D = 1 mA, V_{GS}=0	800			V
	2SK796A			900			
Gate threshold voltage		V_{th}	V_{DS}=25V, I_D=1mA	1		5	V
Drain-source ON resistance		R_{DS}(on)	V_{GS}=10V, I_D=2A		3.5	5.0	Ω
Forward transfer admittance		| Yfs |	V_{DS}=25V, I_D=2A	0.7	1.7		S
Input capacitance		C_{iss}	V_{DS}=20V, V_{GS}=0, f=1MHz		600		pF
Output capacitance		C_{oss}			110		pF
Reverse transfer capacitance		C_{rss}			50		pF
Turn-on time		t_{on}	V_{GS}=10V, I_D=2A V_{DD}=200V, R_L=100Ω		55		ns
Fall time		t_f			40		ns
Delay time		t_d(off)			110		ns

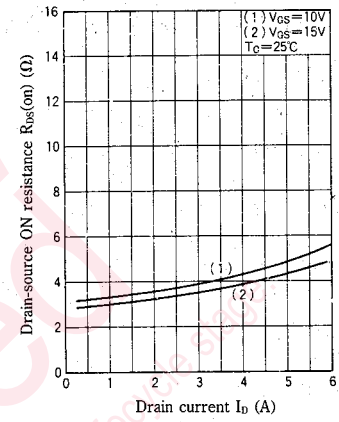
$I_D - V_{DS}$



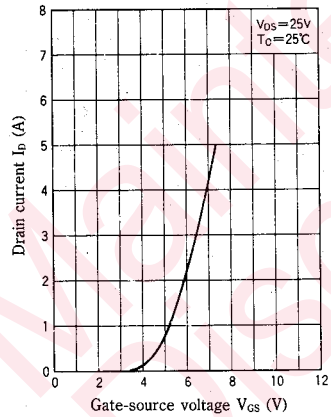
$|Y_{fs}| - I_D$



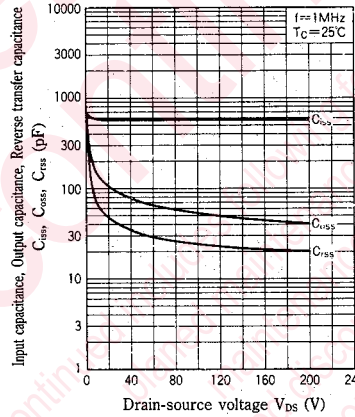
$R_{DS}(on) - I_D$



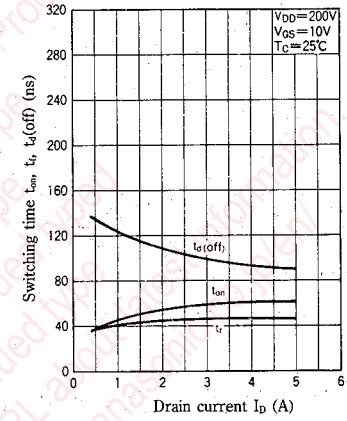
$I_D - V_{GS}$



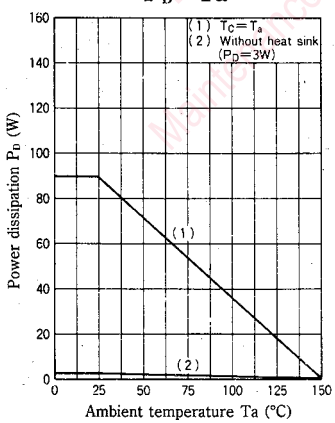
C_{iss}, C_{oss}, $C_{rss} - V_{DS}$



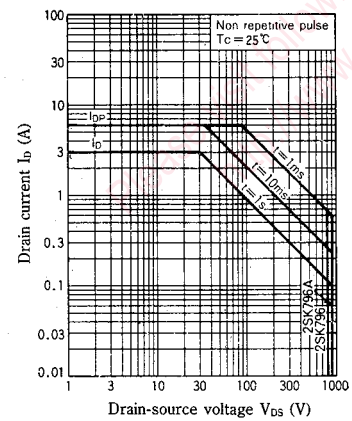
t_{on}, t_f, t_d(off) $- I_D$



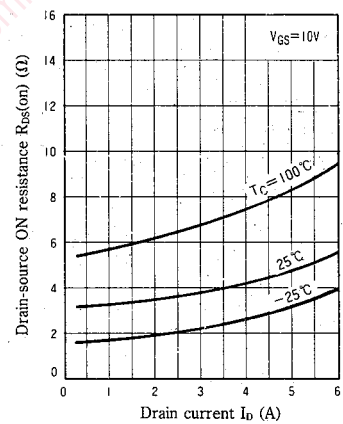
$P_D - Ta$



Safety operation area (ASO)



$R_{DS}(on) - I_D$



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