2SK1330, 2SK1330A

Silicon N-Channel Power F-MOS FET

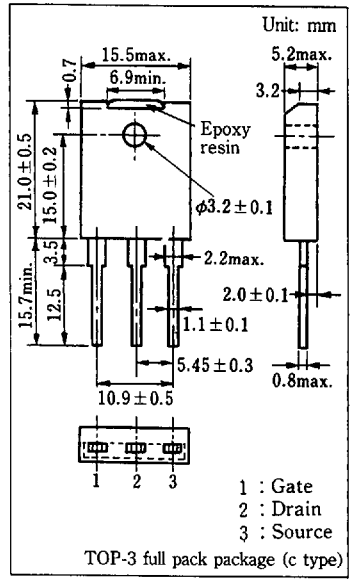
■ Features

- Low $R_{RD\ (on)}$=1.3Ω (typ.)
- High speed switching t_f=120ns (typ.)
- Secondary breakdown free
- High breakdown voltage, high power

■ Use

- Non-contact relay.
- Motor control.
- Measuring Equipment.
- Switching regulator.
- Solenoid drive.

■ Package Dimensions



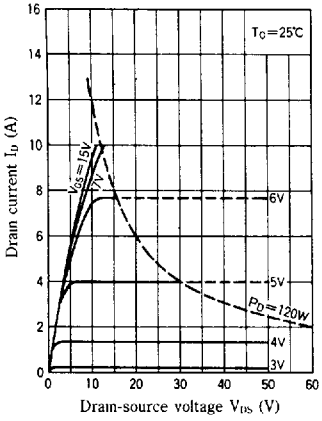
■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Drain-source voltage	2SK1330	V_{DSS}	800	V
	2SK1330A		900	
Gate-source voltage		V_{GSS}	±20	V
Drain current	DC	I_D	8	A
	Peak-to-peak value	I_{DP}	16	
Power dissipation	Tc=25℃	P_D	100	W
	Ta=25℃		3	
Channel temperature		T_{ch}	150	℃
Storage temperature		T_{stg}	−55~+150	℃

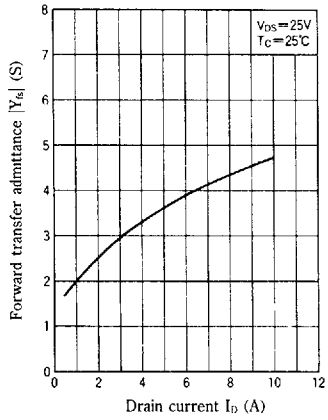
■ Electrical Characteristics (Tc=25°C)

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	2SK1330	V_{DSS}	I_D= 1 mA, V_{GS}=0	800			V
	2SK1330A			900			
Gate threshold voltage		V_{th}	V_{DS}=25V, I_D=1mA	1		5	V
Drain-source ON resistance	2SK1330	$R_{DS(on)}$	V_{GS}=10V, I_D=5A	1.3		1.7	Ω
	2SK1330A			1.4		1.8	
Forward transfer admittance		| Yfs |	V_{DS}=25V, I_D=5A	2.1	4.0		S
Input capacitance		C_{iss}	V_{DS}=20V, V_{GS}=0, f=1MHz		2000		pF
Output capacitance		C_{oss}			280		pF
Reverse transfer capacitance		C_{rss}			120		pF
Turn-on time		t_{on}	V_{GS}=10V, I_D=5A V_{DD}≒200V, R_L=40Ω		110		ns
Fall time		t_f			120		ns
Delay time		$t_{d(off)}$			300		ns

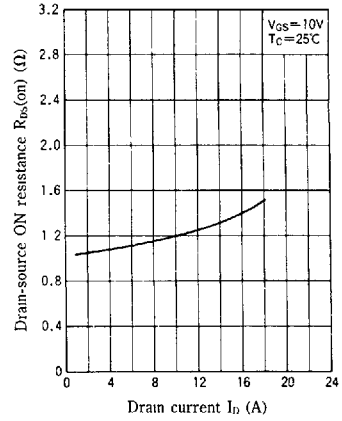
$I_D - V_{DS}$



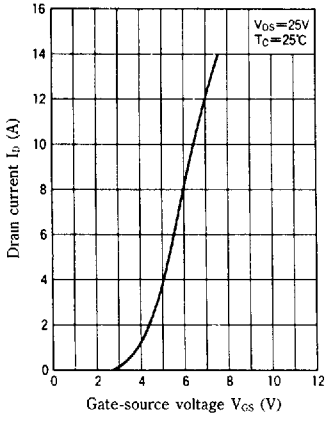
$|Y_{fs}| - I_D$



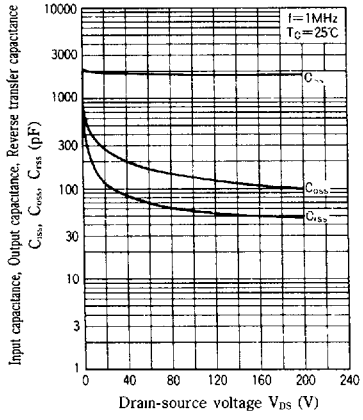
$R_{DS}(on) - I_D$



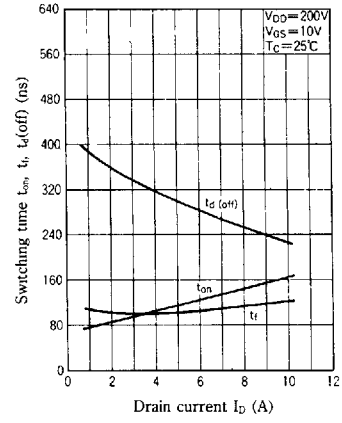
$I_D - V_{GS}$



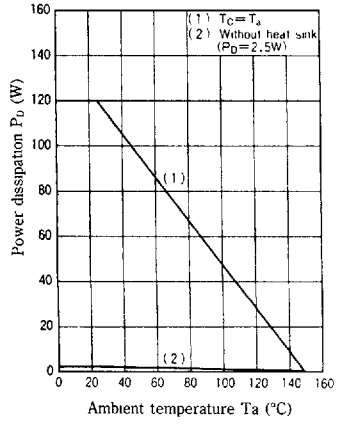
C_{iss}, C_{oss}, $C_{rss} - V_{DS}$



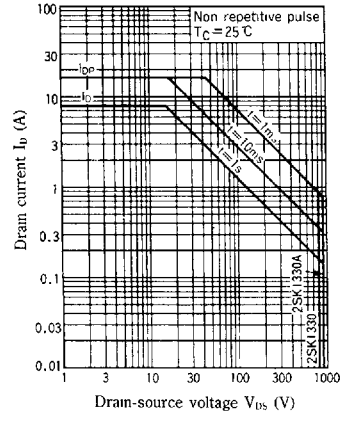
t_{on}, t_f, t_d (off) $- I_D$



$P_D - Ta$



Safety operation area (ASO)



$R_{DS}(on) - I_D$