2SK1308, 2SK1308A

Silicon N-Channel Power F-MOS FET

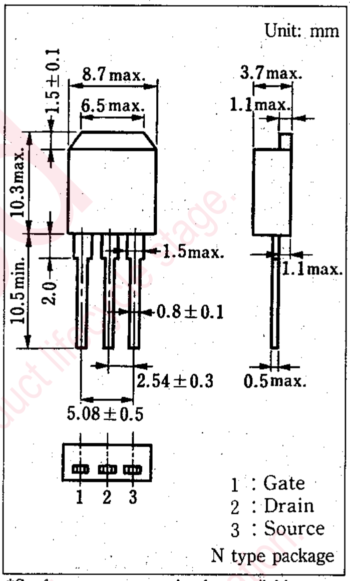
■ Features

- Low $R_{RD\ (on)}=0.9\Omega$ (typ.)
- High speed switching $t_f=50$ns (typ.)
- No secondary breakdown
- High breakdown voltage

■ Use

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

■ Package Dimensions



*Surface-mount type is also available. (Refer to p.82.)

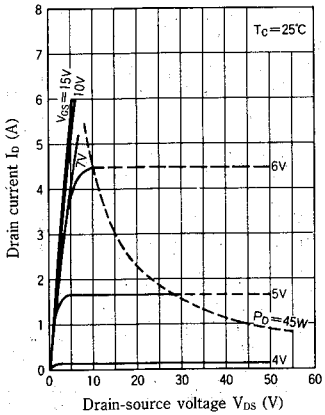
■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Drain-source voltage	2SK1308	V_{DSS}	400	V
	2SK1308A		450	
Gate-source voltage		V_{GSS}	±20	V
Drain current	DC	I_D	5	A
	Peak-to-peak value	I_{DP}	10	
Power dissipation	Tc=25℃	P_D	40	W
	Ta=25℃		1.3	
Channel temperature		T_{ch}	150	℃
Storage temperature		T_{stg}	−55～+150	℃

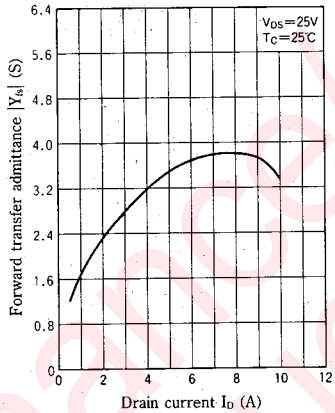
■ Electrical Characteristics (Tc=25°C)

Item		Symbol	Condition	min.	typ.	max.	Unit
Drain current		I_{DSS}	$V_{DS}=320V$, $V_{GS}=0$			0.1	mA
Gate-source current		I_{GSS}	$V_{GS}=\pm20V$, $V_{DS}=0$			±1	μA
Drain-source voltage	2SK1308	V_{DSS}	$I_D=1$ mA, $V_{GS}=0$	400			V
	2SK1308A			450			
Gate threshold voltage		V_{th}	$V_{DS}=25V$, $I_D=1mA$	1		5	V
Drain-source ON resistance		$R_{DS}(on)$	$V_{GS}=10V$, $I_D=3A$		0.9	1.4	Ω
Forward transfer admittance		$\lvert Y_{fs} \rvert$	$V_{DS}=25V$, $I_D=3A$	1.8	3.0		S
Input capacitance		C_{iss}	$V_{DS}=20V$, $V_{GS}=0$, f=1MHz		600		pF
Output capacitance		C_{oss}			140		pF
Reverse transfer capacitance		C_{rss}			60		pF
Turn-on time		t_{on}	$V_{GS}=10V$, $I_D=3A$ $V_{DS}\fallingdotseq150V$, $R_L=50\Omega$		40		ns
Fall time		t_f			50		ns
Delay time		$t_d(off)$			120		ns

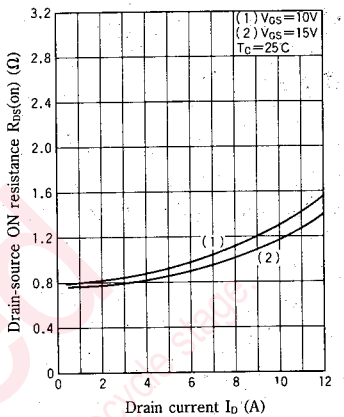
$I_D - V_{DS}$



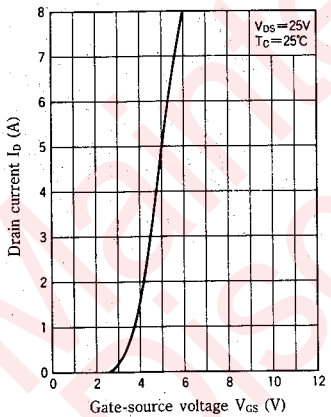
$|Y_{fs}| - I_D$



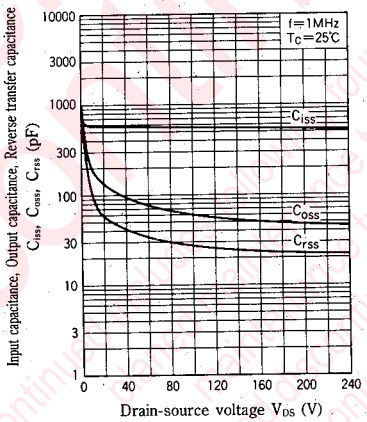
$R_{DS}(on) - I_D$



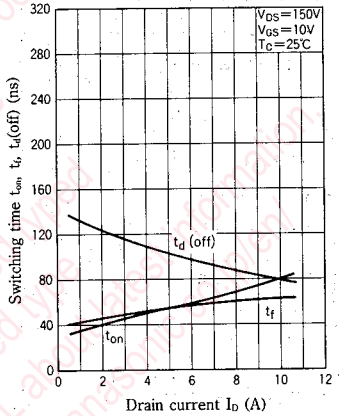
$I_D - V_{GS}$



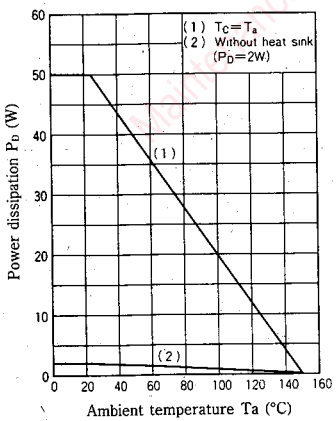
C_{iss}, C_{oss}, $C_{rss} - V_{DS}$



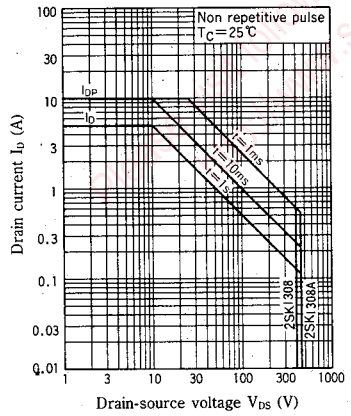
t_{on}, t_f, t_d (off) $- I_D$



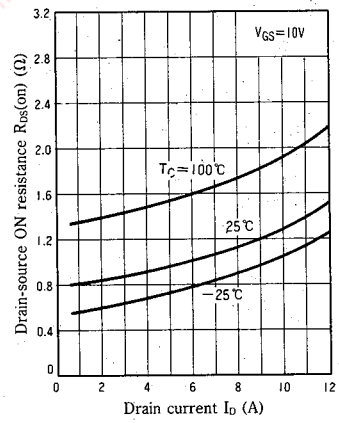
$P_D - Ta$



Safety operation area (ASO)



$R_{DS}(on) - I_D$



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