

2SK2327

Silicon N-Channel Power F-MOS FET

■ Features

- Avalanche energy capacity guaranteed
- High-speed switching
- Low ON-resistance
- No secondary breakdown

■ Applications

- Contactless relay
- Diving circuit for a solenoid
- Driving circuit for a motor
- Control equipment
- Switching power supply

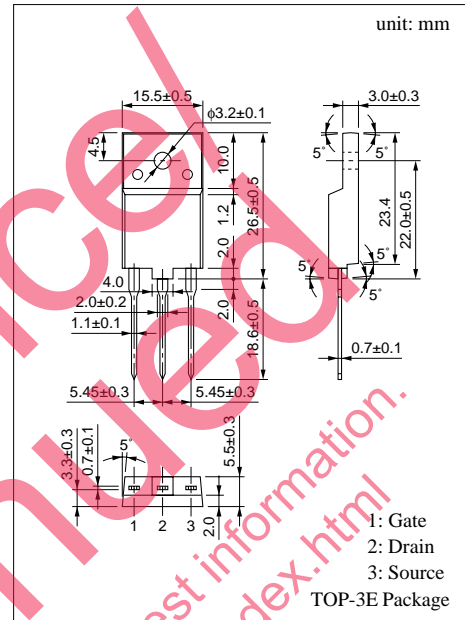
■ Absolute Maximum Ratings (T_C = 25°C)

Parameter	Symbol	Ratings	Unit
Drain to Source breakdown voltage	V _{DSS}	600	V
Gate to Source voltage	V _{GSS}	±30	V
Drain current	DC	I _D	±10
	Pulse	I _{DP}	±20
Avalanche energy capacity	EAS*	100	mJ
Allowable power dissipation	T _C = 25°C	P _D	100
	T _a = 25°C		3
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

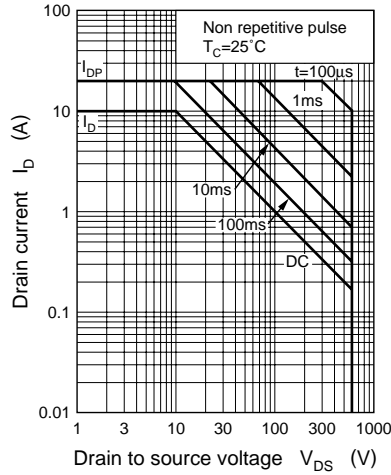
* L = 2mH, I_L = 10A, 1 pulse

■ Electrical Characteristics (T_C = 25°C)

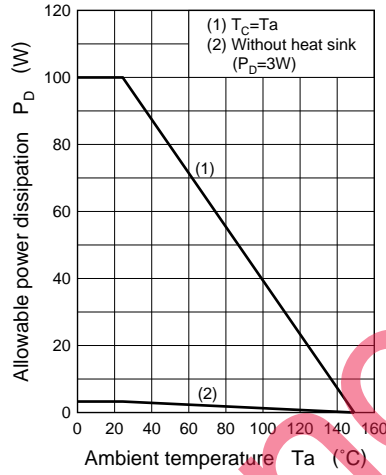
Parameter	Symbol	Conditions	min	typ	max	Unit	
Drain to Source cut-off current	I _{DSS}	V _{DS} = 480V, V _{GS} = 0			100	μA	
Gate to Source leakage current	I _{GSS}	V _{GS} = ±30V, V _{DS} = 0			±1	μA	
Drain to Source breakdown voltage	V _{DSS}	I _D = 1mA, V _{GS} = 0	600			V	
Gate threshold voltage	V _{th}	V _{DS} = 25V, I _D = 1mA	2		5	V	
Drain to Source ON-resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 5A		0.6	0.75	Ω	
Forward transfer admittance	Y _{fs}	V _{DS} = 25V, I _D = 5A	3.6	6		S	
Diode forward voltage	V _{DSF}	I _{DR} = 10A, V _{GS} = 0			-1.7	V	
Input capacitance (Common Source)	C _{iss}	V _{DS} = 20V, V _{GS} = 0, f = 1MHz		2000		pF	
Output capacitance (Common Source)	C _{oss}				210		pF
Reverse transfer capacitance (Common Source)	C _{rss}				70		pF
Turn-on time (delay time)	t _{d(on)}	V _{DD} = 200V, I _D = 5A V _{GS} = 10V, R _L = 40Ω		30		ns	
Rise time	t _r			40		ns	
Fall time	t _f			60		ns	
Turn-off time (delay time)	t _{d(off)}			195		ns	
Thermal resistance between channel and case	R _{th(ch-c)}				1.25	°C/W	
Thermal resistance between channel and atmosphere	R _{th(ch-a)}				41.67	°C/W	



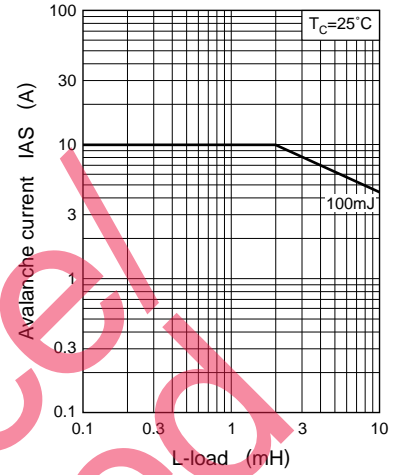
Area of safe operation (ASO)



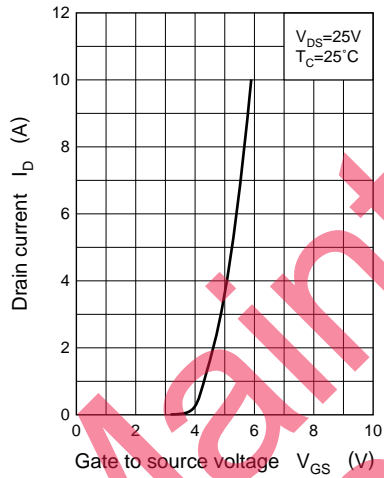
P_D — T_a



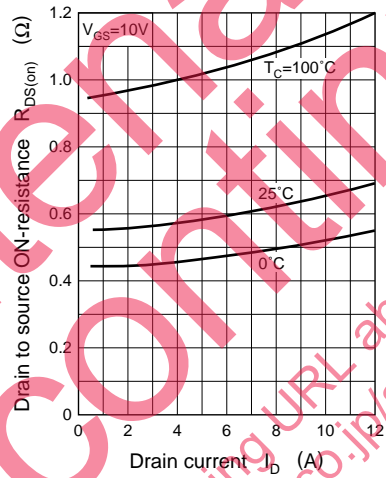
IAS — L-load



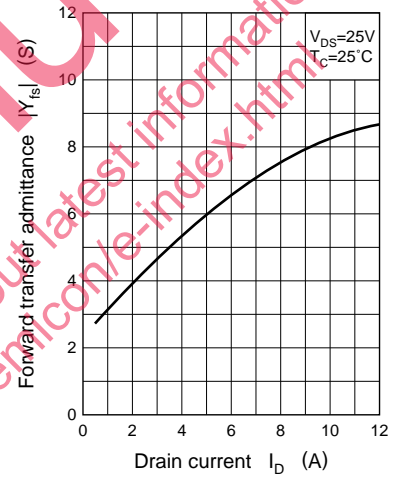
I_D — V_{GS}



$R_{DS(on)}$ — I_D



$|Y_{fs}|$ — I_D



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