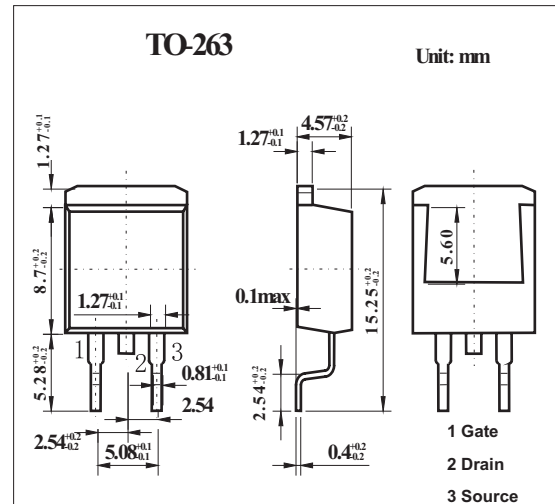


Silicon N-channel Power MOSFET

2SK3637

■ Features

- Low on-resistance, low Qg
- High avalanche resistance

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain-source surrender voltage	V_{DS}	200	V
Gate-source surrender voltage	V_{GS}	± 30	V
Drain current	I_D	50	A
Peak drain current	I_{DP}	200	A
Avalanche energy capability	E_{AS}	2 000	mJ
Power dissipation $T_a = 25^\circ\text{C}$	P_D	3	W
Power dissipation		100	
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Gate-drain surrender voltage	V _{DSS}	I _D = 1 mA, V _{GS} = 0	200			V
Diode forward voltage	V _{DSF}	I _{DR} = 50 A, V _{GS} = 0			-1.5	V
Gate threshold voltage	V _{th}	V _{DS} = 25 V, I _D = 10 mA	2		4	V
Drain-source cutoff current	I _{DSS}	V _{DS} = 160 V, V _{GS} = 0			100	μA
Gate-source cutoff current	I _{GSS}	V _{GS} = ±30 V, V _{DS} = 0			±1	μA
Drain-source on resistance	R _{DS(on)}	V _{GS} = 10 V, I _D = 25 A		29	40	mΩ
Forward transfer admittance	Y _{fs}	V _{DS} = 25 V, I _D = 25 A	15	30		S
Short-circuit forward transfer capacitance	C _{iss}	V _{DS} = 25 V, V _{GS} = 0, f = 1 MHz		4 550		pF
Short-circuit output capacitance	C _{oss}			750		pF
Reverse transfer capacitance	C _{rss}			75		pF
Turn-on delay time	t _{d(on)}	V _{DD} = 100 V, I _D = 25 A, R _L = 4 Ω, V _{GS} = 10 V		50		ns
Rise time	t _r			125		ns
Turn-off delay time	t _{d(off)}			390		ns
Fall time	t _f			140		ns
Reverse recovery time	t _{rr}	L = 230 μH, V _{DD} = 100 V		210		ns
Reverse recovery charge	Q _{rr}	I _{DR} = 25 A, di/dt = 100 A/μs		820		nC
Total gate charge	Q _g	V _{DD} = 100 V, I _D = 25 A, V _{GS} = 10 V		85		nC
Gate-source charge	Q _{gs}			30		nC
Gate-drain charge	Q _{gd}			12		nC
Channel-case heat resistance	R _{th(ch-c)}				1.25	°C/W
Channel-atmosphere heat resistance	R _{th(ch-a)}				41.6	°C/W