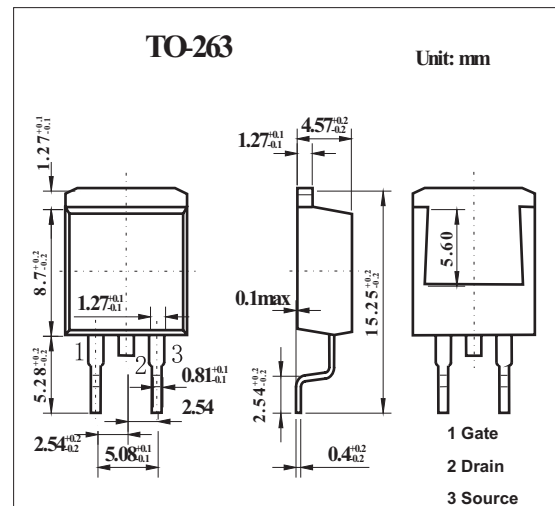
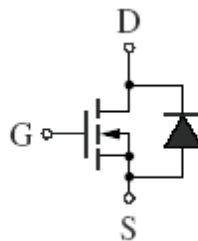


Silicon N-channel power MOSFET

2SK3560

■ Features

- Low on-resistance, low Qg
- High avalanche resistance
- For high-speed switching

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

Parameter	Symbol	Rating	Unit
Drain-source surrender voltage	V_{DSS}	230	V
Gate-source surrender voltage	V_{GSS}	± 30	V
Drain current	I_D	30	A
Peak drain current	I_{DP}	120	A
Power dissipation $T_a = 25^\circ\text{C}$	P_D	3	W
Power dissipation		50	
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

2SK3560

■ 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	230			V
Diode forward voltage	V _{DSF}	I _{DR} = 30 A, V _{GS} = 0			-1.5	V
Gate threshold voltage	V _{th}	V _{DS} = 25 V, I _D = 1 mA	2		4	V
Drain-source cutoff current	I _{DSS}	V _{DS} = 184 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 = 15 A		55	74	mΩ
Forward transfer admittance	Y _{fs}	V _{DS} = 25 V, I _D = 15 A	8	19		S
Short-circuit forward transfer capacitance	C _{iss}	V _{DS} = 25 V, V _{GS} = 0, f = 1 MHz		2 330		pF
Short-circuit output capacitance	C _{oss}			356		pF
Reverse transfer capacitance	C _{rss}			44		pF
Turn-on delay time	t _{d(on)}		V _{DD} ≈ 100 V, I _D = 15 A		39	
Rise time	t _r	R _L ≈ 6.7 Ω, V _{GS} = 10 V		37		ns
Turn-off delay time	t _{d(off)}			221		ns
Fall time	t _f			46		ns
Reverse recovery time	t _{rr}	L = 230 μH, V _{DD} = 100 V		164		ns
Reverse recovery charge	Q _{rr}	I _{DR} = 15 A, di/dt = 100 A/μs		853		nC
Total gate charge	Q _g	V _{DD} = 100 V, I _D = 25 A		51.2		nC
Gate-source charge	Q _{gs}	V _{GS} = 10 V		8.2		nC
Gate-drain charge	Q _{gd}			19.4		nC
Channel-case heat resistance	R _{th(ch-c)}				2.5	°C/W
Channel-atmosphere heat resistance	R _{th(ch-a)}				89.2	°C/W