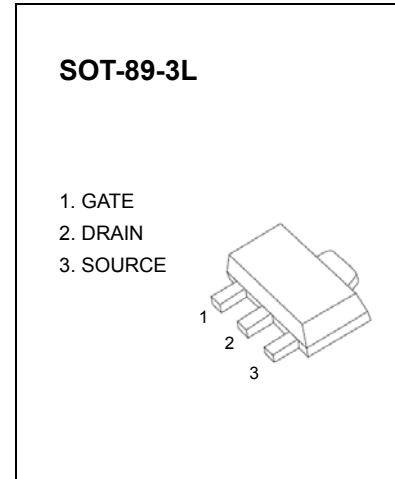
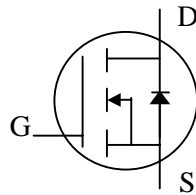


SOT-89-3L Plastic-Encapsulate MOSFETS

CJA9452 N-Channel 20-V(D-S) MOSFET

Description

The Advanced Power MOSFETs provide the designer with the best combination of fast switching, ruggedized device design, ultra low on- resistance and cost-effectiveness.



Maximum ratings (T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Units
Drain-Source Voltage	V _{DS}	20	V
Continuous Gate-Source Voltage	V _{GS}	±12	
Continuous Drain Current	I _D	4	A
Power Dissipation	P _D	0.5	W
Thermal Resistance from Junction to Ambient	R _{θJA}	250	°C/W
Operating Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 ~+150	

Electrical characteristics (T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	20			V
Gate-body leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±12V			±100	nA
Zero gate voltage drain current	I _{DSS}	V _{DS} = 20V, V _{GS} = 0V			1.0	μA
On characteristics						
Gate-threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 0.25mA	0.70		1.50	V
Static drain-source on-resistance (note 1)	R _{DS(on)}	V _{GS} = 10V, I _D = 4A			0.038	Ω
		V _{GS} = 4.5V, I _D = 4A			0.05	
		V _{GS} = 2.5V, I _D = 3A			0.08	
Forward transconductance (note 1)	g _{fs}	V _{DS} = 5V, I _D = 3A	3			S
Dynamic characteristics (note 2)						
Input capacitance	C _{ISS}	V _{DS} = 20V, V _{GS} = 0V, f = 1MHz			570	pF
Output capacitance	C _{OSS}			80		
Reverse transfer capacitance	C _{rss}			65		
Switching characteristics						
Turn-on delay time (note 1,2)	t _{d(on)}	V _{GS} = 5V, V _{DS} = 10V, I _D = 1A, R _{GEN} = 3.3Ω, R _D = 10Ω		8		ns
Rise time (note 2)	t _r			9		
Turn-off delay time (note 2)	t _{d(off)}			13		
Fall time (note 2)	t _f			3		
Drain-source body diode characteristics						
Body diode forward voltage (note 1)	V _{SD}	I _S = 1A, V _{GS} = 0V			1.3	V

No tes:

1. Pulse Test ; Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
2. These parameters have no way to verify.

