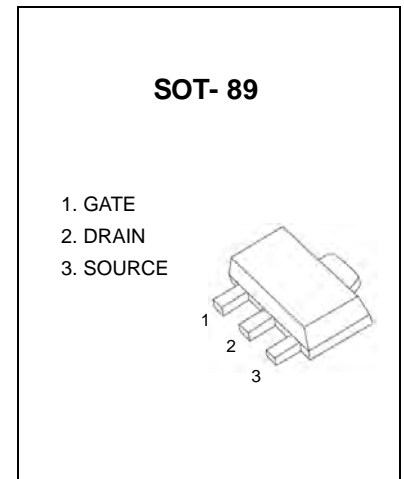
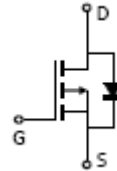


P-Channel 20-V(D-S) MOSFET

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	-2.3	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 = 10μA	-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	-0.50		-1.50	V
Static drain-source on-resistance (note 1)	R _{DS(on)}	V _{GS} = -4.5V, I _D = -2.3A			0.135	Ω
		V _{GS} = -2.5V, I _D = -1.0A			0.240	
Forward transconductance (note 1)	g _{fs}	V _{DS} = -5V, I _D = -2.3A	2.3			S
Dynamic characteristics (note 2)						
Input capacitance	C _{iss}	V _{DS} = -20V, V _{GS} = 0V, f = 1MHz			430	pF
Output capacitance	C _{oss}			100		
Reverse transfer capacitance	C _{rss}			35		
Switching characteristics						
Turn-on delay time (note 1,2)	t _{d(on)}	V _{GS} = -5V, V _{DS} = -10V, I _D = -1A, R _G = 3.3Ω, R _D = 10Ω		9		ns
Rise time (note 2)	t _r			25		
Turn-off delay time (note 2)	t _{d(off)}			20		
Fall time (note 2)	t _f			10		
Drain- source body diode characteristics						
Body diode forward voltage (note 1)	V _{SD}	I _S = -1A, V _{GS} = 0V			-1.6	V

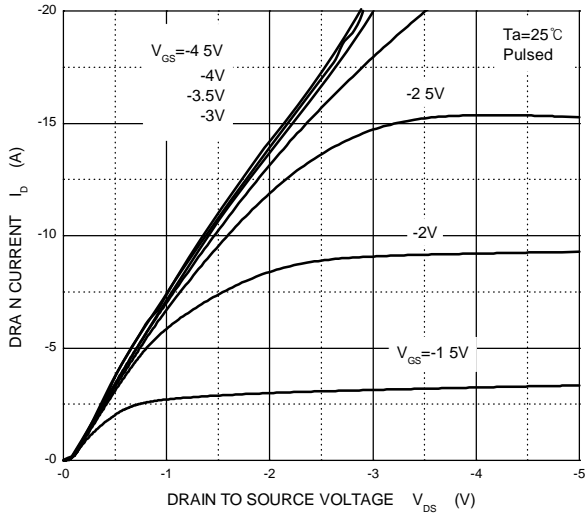
No tes:

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

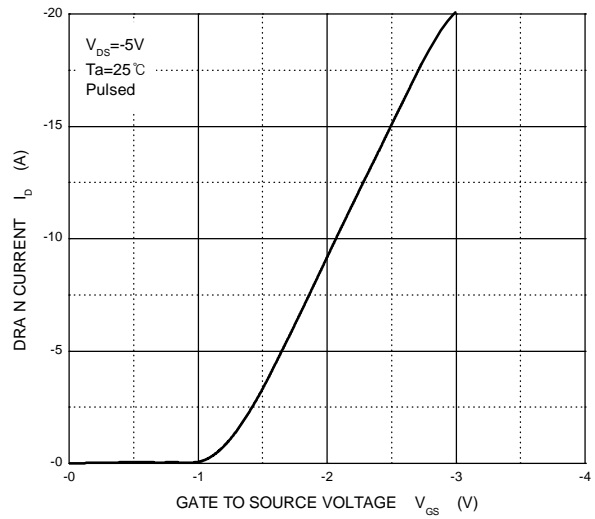


Typical Characteristics

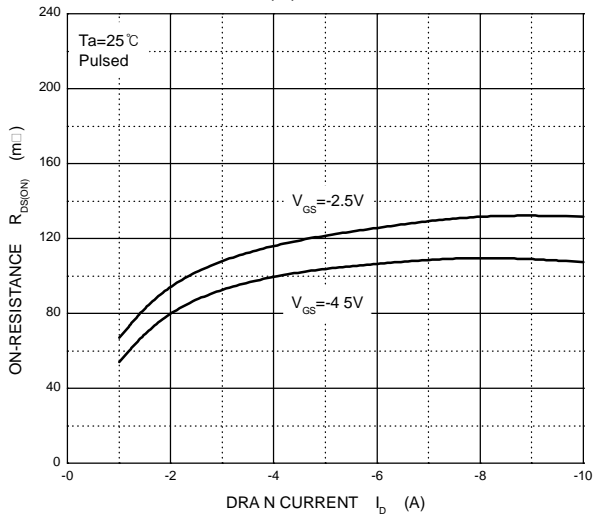
Output Characteristics



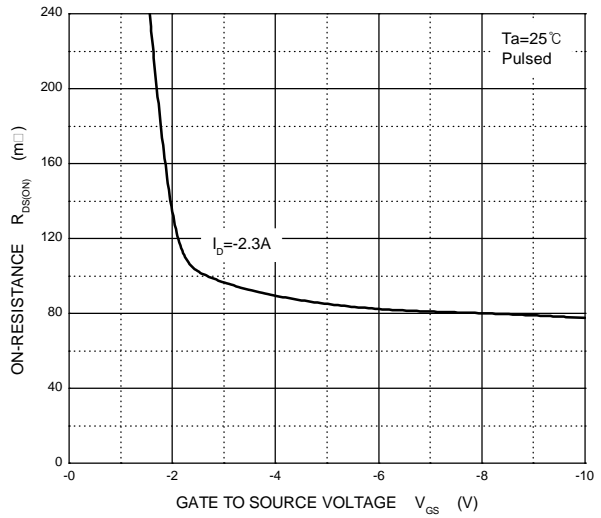
Transfer Characteristics



$R_{DS(ON)}$ — I_b



$R_{DS(ON)}$ — V_{GS}



I_s — V_{SD}

