

50V N-Channel MOSFETS

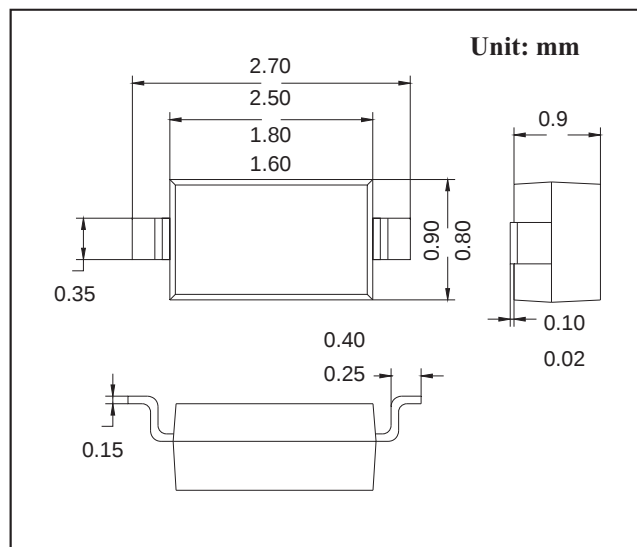
SOT-323 Plastic-Encapsulate MOSFETS

FEATURES

- High density cell design for extremely low RDS(on).
- Rugged and Reliable.
- Direct Logic-Level Interface: TTL/CMOS
- Drivers: Relays, Solenoids, Lamps, Hammers, Display, Memories, Transistors, etc.
- Solid-State Relays Battery Operated Systems

MECHANICAL DATA

- SOT-323 Small Outline Plastic Package.
- Epoxy UL: 94V-0.



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

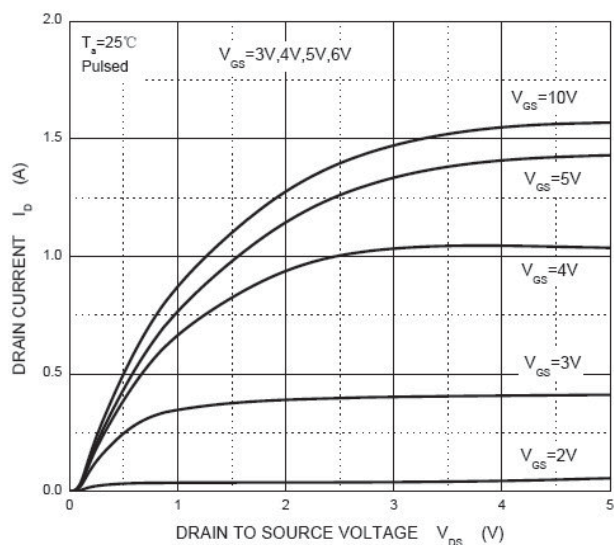
Parameters	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	50	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _D	0.22	A
Power Dissipation	P _D	300	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-50-+150	°C
Thermal Resistance From Junction to Ambient	R _{θJA}	417	°C/W

Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Static						
Drain-Source Breakdown Voltage	V(BR)DSS	VGS=0V, ID=250uA	50			V
Gate-Threshold voltage(note1)	V GS (th)	VDS=VGS, ID=1mA	0.8		1.5	V
Gate-body Leakage	IGSS	VDS=0V, VGS=± 20V			± 100	nA
Zero Gate Voltage Drain current	IDSS	VDS=50V, VGS=0V			0.5	uA
		VDS=30V, VGS=0V			0.1	
Drain-Source On-Resistance (note1)	RDS(ON)	VGS=10V, ID=0.22A			3.5	Ω
		VGS=4.5V, IC=0.22A			6	
Forward trans conductance (note1)	gfs	VDS=10V, ID=0.22A	0.12			S
Diode forward voltage(note1)	VSD	IS=0.44A, VGS=0V			1.4	V
Dynamic(note2)						
Input capacitance	Ciss	VDS=25V, VGS=0V,f=1MHz		27		pF
Output capacitance	Coss			13		
Reverse Transfer capacitance	Crss			6		
Switching(note1,2)						
Turn-on Time	td(on)	VDD=30V, RGEN=6Ω, VGS=10V, ID=0.29A,			5	ns
Rise time	tr				18	
Turn-off Time	td(off)				36	
Fall time	tf				14	

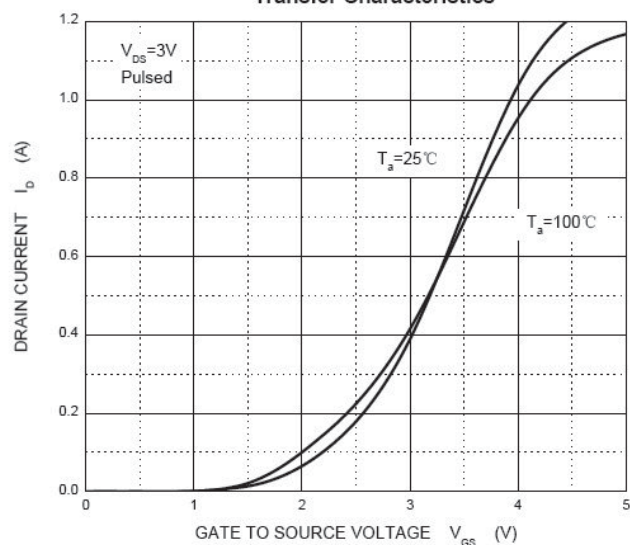
Notes: 1. Pulse Test: Pulse Width ≤300us, Duty Cycles≤2%.

RATINGS AND CHARACTERISTIC CURVES

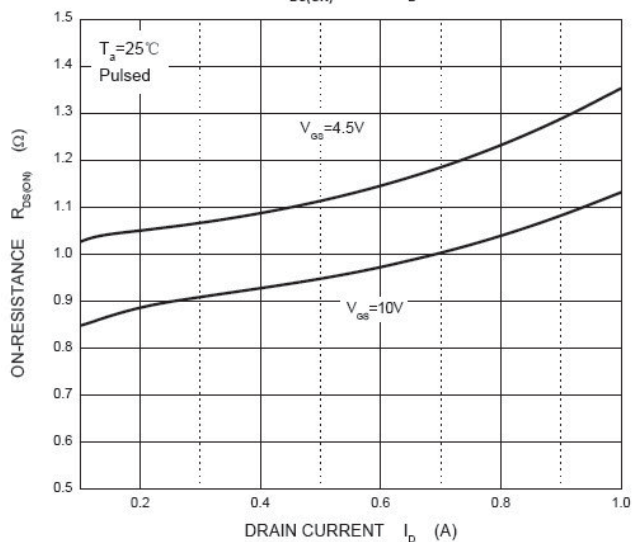
Output Characteristics



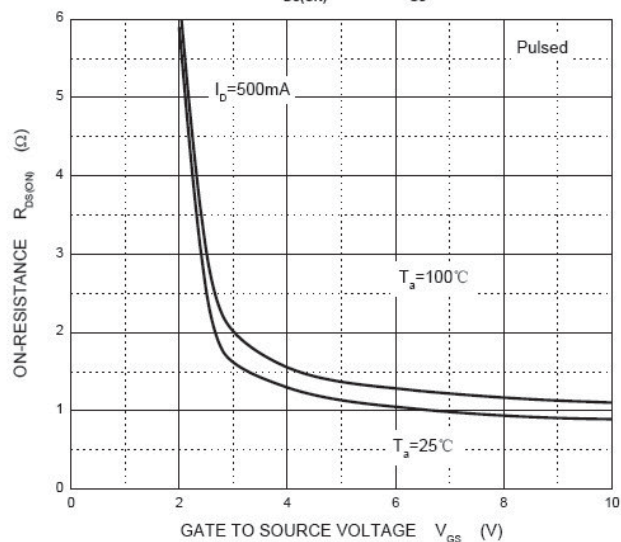
Transfer Characteristics



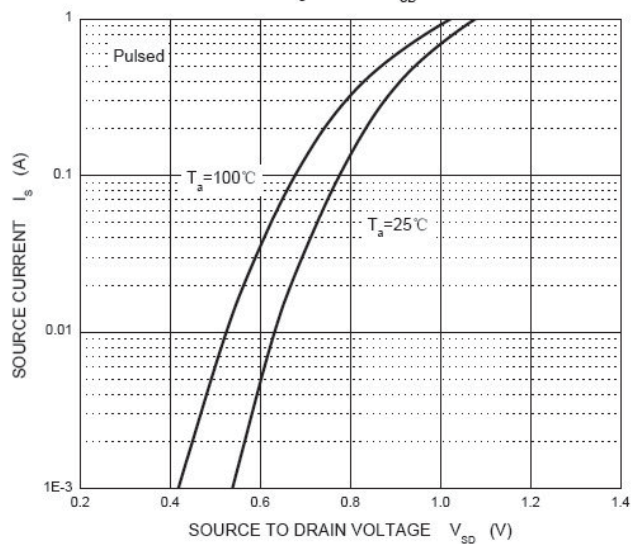
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



Threshold Voltage

