

Single P-Channel, -50V, -0.13A, Power MOSFET

Features

- ✧ Supper high density cell design
- ✧ Excellent ON resistance
- ✧ Extremely Low Threshold Voltage
- ✧ Small package SOT-23

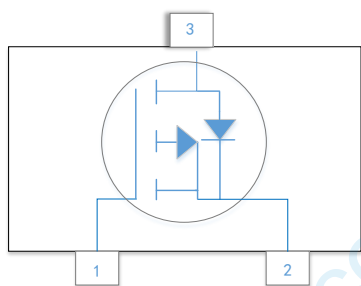
V_{DS} (V)	Max. $R_{DS(on)}$ (Ω)
-50	6 @ $V_{GS}=-10V$
	8 @ $V_{GS}=-5V$

Applications

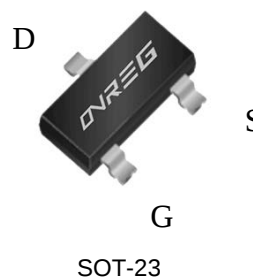
- ✧ DC/DC converters
- ✧ Power supply converters circuit
- ✧ Load/Power Switching for portable device

Mechanical Data

- ✧ UL Flame Rating : UL94V-0
- ✧ Reel Size : 7 inch
- ✧ RoHS/WEEE Complain



Circuit Diagram



SOT-23

Absolute Maximum Rating at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-50	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current $T_A=25^\circ\text{C}$	I_D	-0.13	A
Maximum Power Dissipation	P_D	225	mW
Pulsed Drain Current	I_{DM}	-0.52	A
Operating Junction Temperature	T_J	-50 to 150	$^\circ\text{C}$
Lead Temperature	T_L	260	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-50 to 150	$^\circ\text{C}$

Electronics Characteristics (Ta=25°C, unless otherwise noted)

Parameter	Symbols	Test Condition	Limits			单位 Unit
			Min	Typ	Max	
Static						
Drain-Source Breakdown Voltage	V(BR)DSS	VGS=0V, ID=-250uA	-50			V
Gate-Threshold voltage(note3)	V GS (th)	VDS=VGS, ID=-250uA	-0.9	-1.6	-2.0	V
Gate-body Leakage	IGSS	VDS=0V, VGS=±20V			±5	uA
Zero Gate Voltage Drain current	IDSS	VDS=-50V, VGS=0V			-15	uA
		VDS=-25V, VGS=0V			-0.1	
Drain-Source On-Resistance (note3)	RDS(ON)	VGS=-5V, ID=-0.1A		5.8	8	Ω
		VGS=-10V, ID=-0.1A		4.5	6	
Forward trans conductance (note1)	gfs	VDS=-25V, ID=-0.1A	50			mS
Diode forward voltage	VSD	IS=0.34A, VGS=0V			1.3	V
Dynamic(note4)						
Input capacitance	Ciss	VDS=5V, VGS=0V,f=1MHz		30		pF
Output capacitance	Coss			10		
Reverse Transfer capacitance	Crss			5		
Switching(note3,4)						
Turn-on Time	td(on)	VDD=-15V, RL=50Ω, ID≈-0.25A,		2.5		ns
Rise time	tr			1		
Turn-off Time	td(off)			16		
Fall time	tf			8		
SOURCE-DRAIN DIODE CHARACTERISTICS						
Continuous Current	Is				-0.13	A
Pulsed Current	ISM				-0.52	A
Diode forward Voltage (note 3)	VSD	IS=-0.13A, VGS=0V			-2.2	V

Notes: 1). Repetitive rating: Pulse width limited by junction temperature.

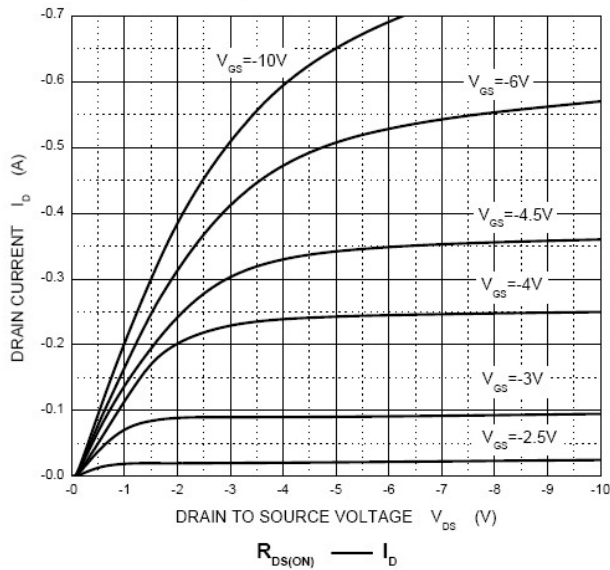
2). Surface mounted on FR4 board, t ≤10s

3). Pulse Test: Pulse Width ≤300us, Duty Cycle≤2%.

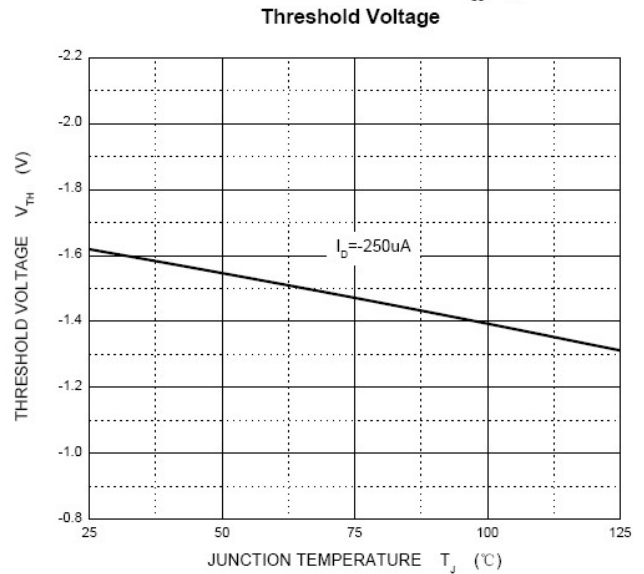
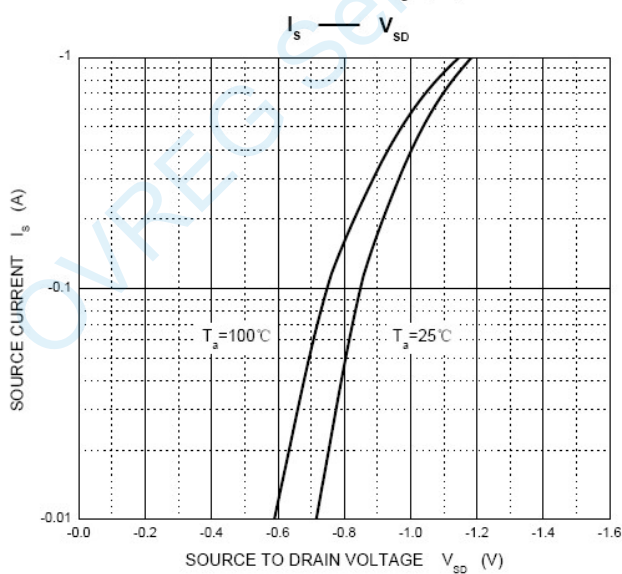
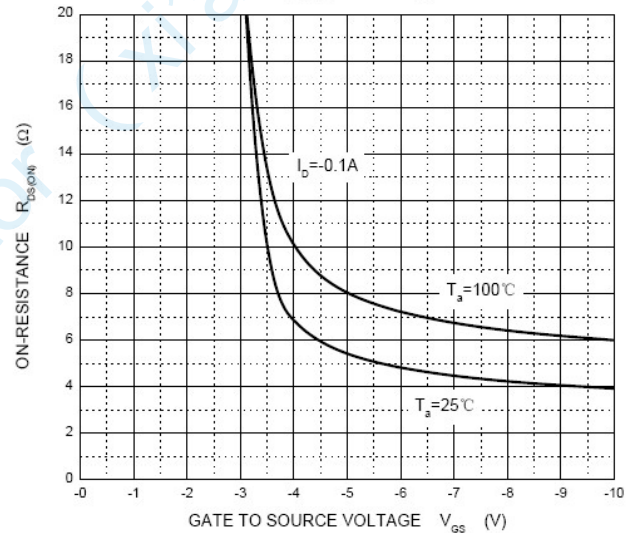
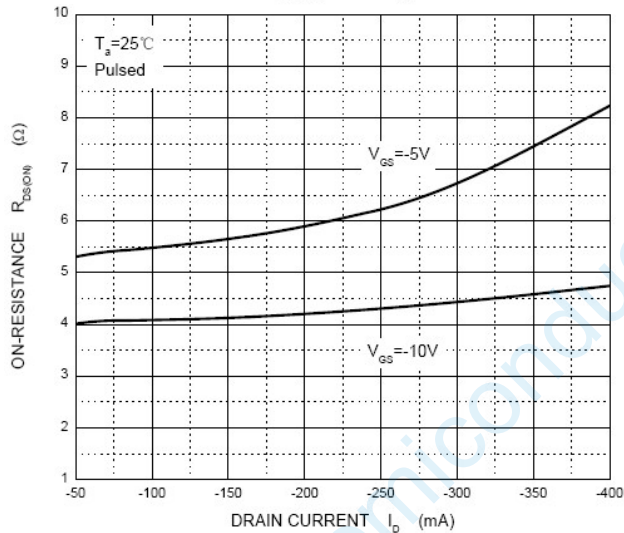
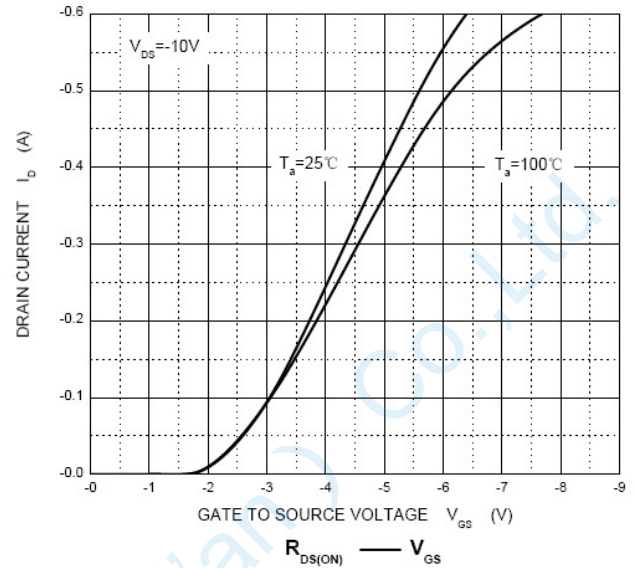
4). Guaranteed by design, not subject to producing.

Electronics Characteristics ($T_a=25^\circ\text{C}$, unless otherwise noted)

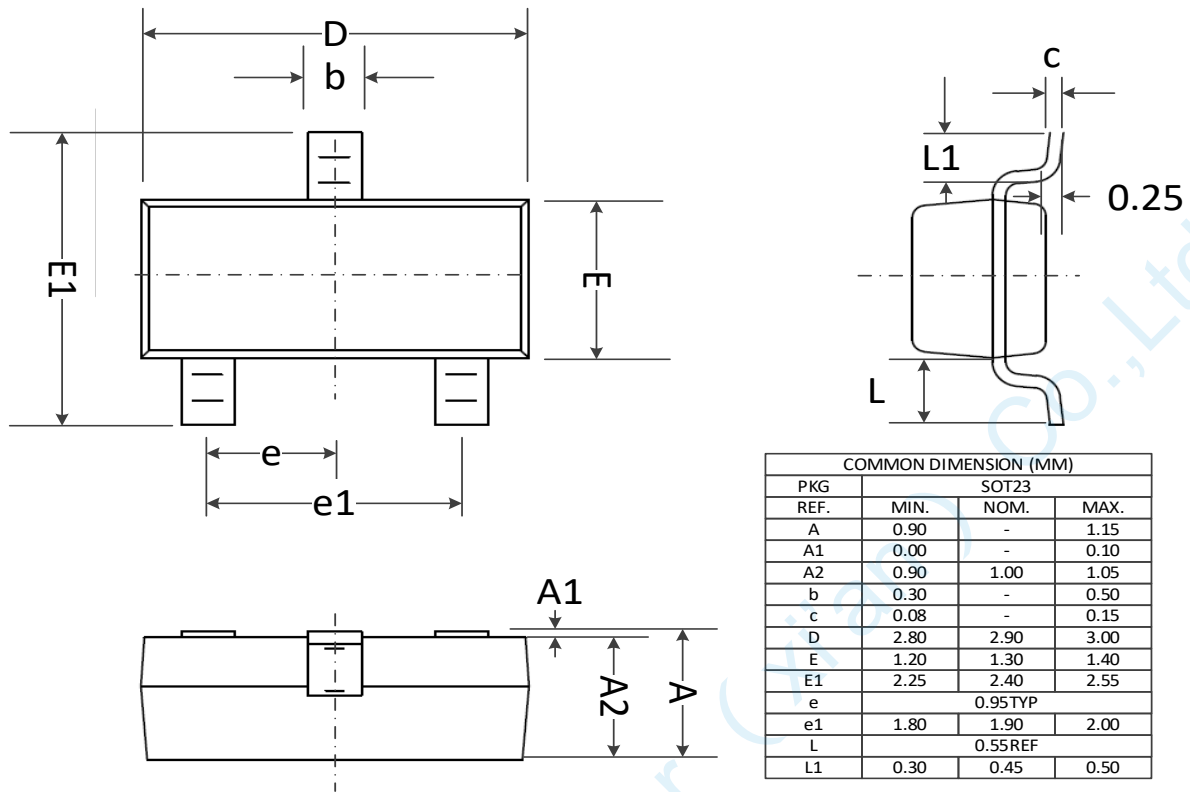
Output Characteristics



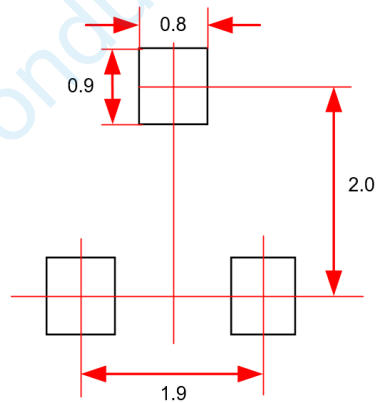
Transfer Characteristics



Package information

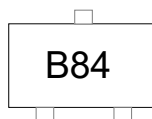


Recommend PCB Layout



Notes: This PCB Layout Is For Reference Purposes Only

Marking



Ordering Information

Part number	Material	Type	Reel size	MOQ	MOQ/internal box	MOQ/carton
OVM50P8RT	GREEN	T/R	7 inch	3k/reel	10reel= 30k/box	4boxes=120k/carton