

Single P-Channel, -20V, -0.66A, MOSFET

Features

- ✧ Trench Technology
- ✧ Supper high density cell design
- ✧ Excellent ON resistance
- ✧ Extremely Low Threshold Voltage
- ✧ Small package SOT-723
- ✧ Compliance with RoHS requirements and Halogen Free

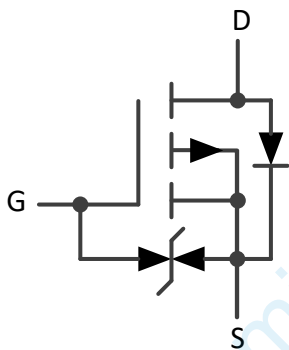
V_{DS} (V)	Max. $R_{DS(on)}$ (m Ω)
-20	640 @ $V_{GS}=-4.5V$
	950 @ $V_{GS}=-2.5V$
	1950 @ $V_{GS}=-1.8V$

Applications

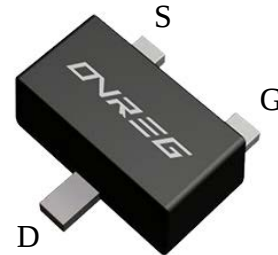
- ✧ Interfacing Switching
- ✧ Load/Power Switching for portable device

Mechanical Data

- ✧ UL Flame Rating : UL94V-0
- ✧ Reel Size : 7 inch



Circuit Diagram



SOT-723

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

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	-20	V
V_{GS}	Gate-Source Voltage	± 12	V
I_D	Drain Current-Continuous (Note 1)	-0.66	A
I_{DM}	Pulsed Drain Current ($t_p = 10\mu\text{s}$)	-1.2	A
P_D	Power Dissipation (Note1)	150	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	833	$^\circ\text{C}/\text{W}$
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^\circ\text{C}$

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

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-20			V
$V_{GS(th)}$	Gate-Threshold Voltage (Note2)	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.35	-0.45	-1.1	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=-20V, V_{GS}=0V$			-1	μA
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 8V, V_{DS}=0V$			± 10	μA
$R_{DS(on)}$	Drain-Source On-Resistance (Note2)	$V_{GS}=-4.5V, I_D=-0.55A$		530	640	$m\Omega$
		$V_{GS}=-2.5V, I_D=-0.45A$		730	950	$m\Omega$
		$V_{GS}=-1.8V, I_D=-0.35A$		1300	1950	$m\Omega$
g_{FS}	Forward Transconductance (Note2)	$V_{DS}=-10V, I_D=-0.54A$		1.2		S
V_{SD}	Diode Forward Voltage	$I_S=-0.5A, V_{GS}=0V$			-1.2	V

Dynamic Characteristics(Note4)

Ciss	Input Capacitance	$V_{DS}=-16V, V_{GS}=0V, f=1MHz$		113	170	pF
Coss	Output Capacitance			15	25	
Crss	Reverse Transfer Capacitance			9	15	

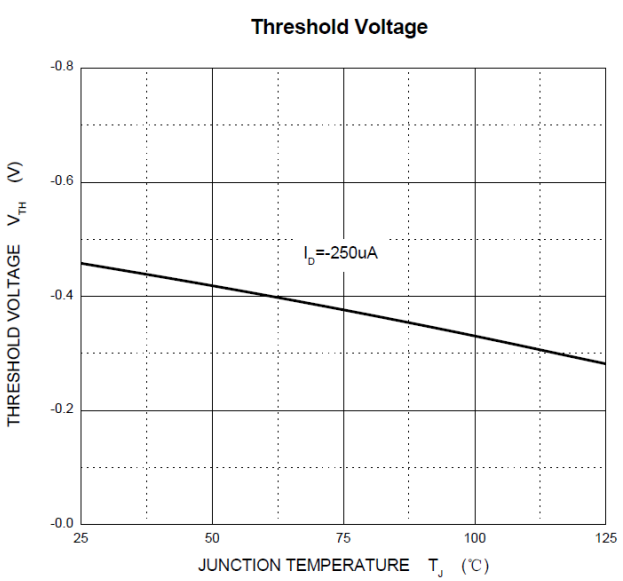
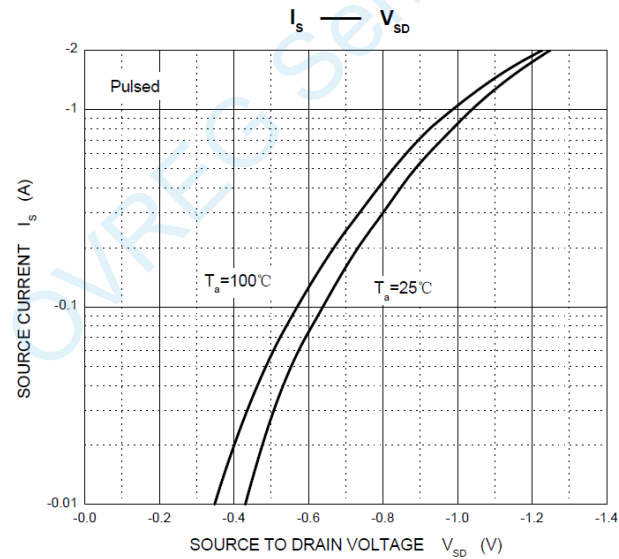
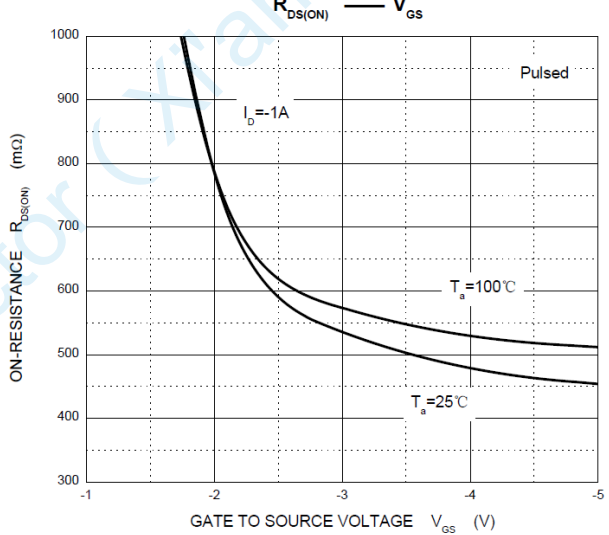
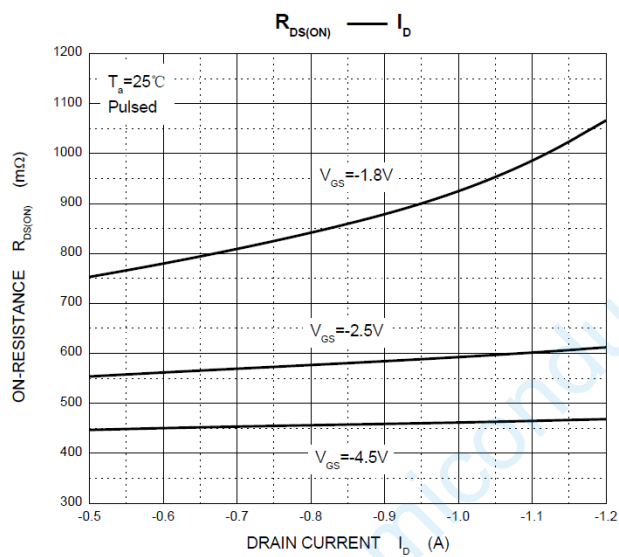
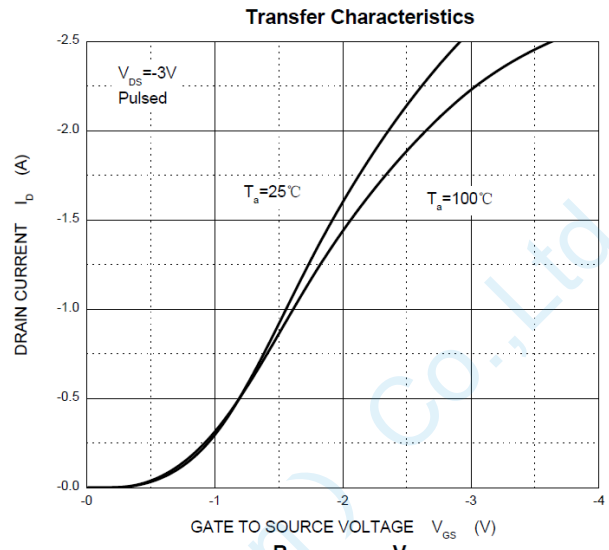
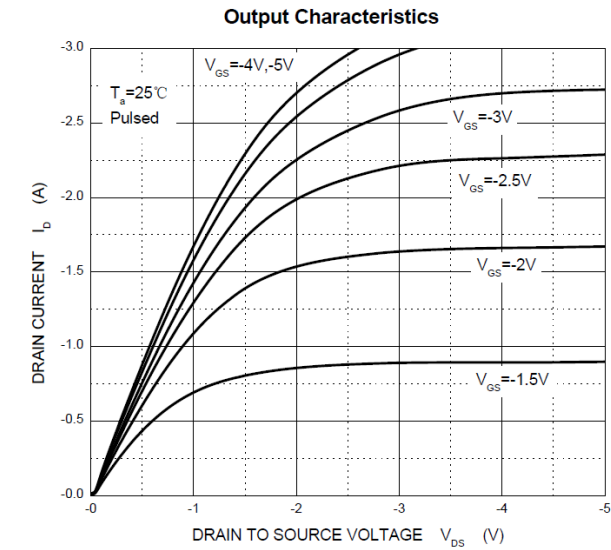
SWITCHING CHARACTERISTICS (Note4)

td(on)	Turn-on Delay Time (Note3)	$V_{GS}=-4.5V, V_{DS}=-10V, I_D=-200mA, R_{GEN}=10\Omega$		9		nS
tr	Turn-on Rise Time (Note3)			5.8		
td(off)	Turn-off Delay Time (Note3)			32.7		
t _f	Turn-off Fall Time (Note3)			20.3		

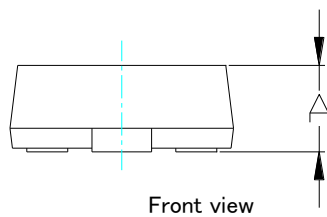
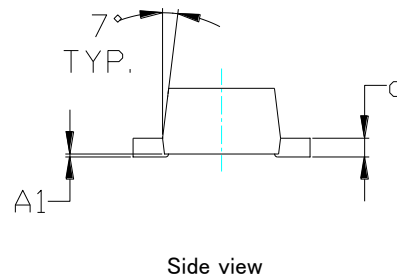
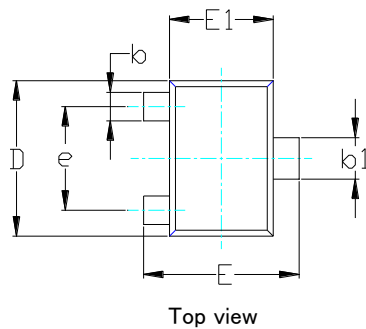
Notes:

1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test: Pulse Width=300 μ s, Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producing.

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

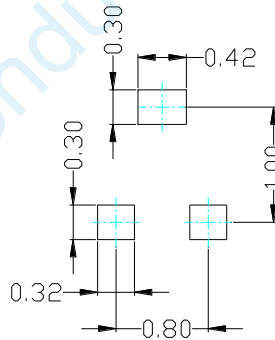


Package information



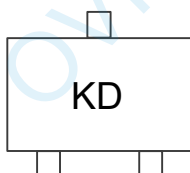
SYMBOL	DIMENSIONS IN MILLIMETER	
	MIN	MAX
A	0.430	0.500
A1	0.000	0.050
b	0.170	0.270
b1	0.270	0.370
c	0.080	0.150
D	1.150	1.250
E	1.150	1.250
E1	0.750	0.850
e	0.800 TYP.	
θ	0°	7°

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
OVM20P640T7	GREEN	T/R	7 inch	8k/reel	10reel= 80k/box	4boxes=320k/carton