Single N-Channel, 30V, 5.8A, Power MOSFET

Features

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

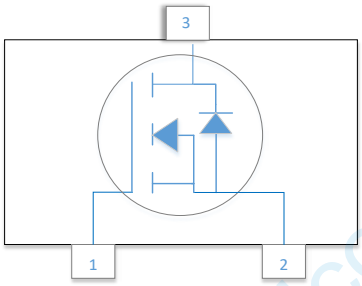
V_{DS} (V)	Max. $R_{DS(on)}$ (mΩ)
30	35 @ V_{GS}=10V
	40 @ V_{GS}=4.5V
	56 @ V_{GS}=2.5V

Applications

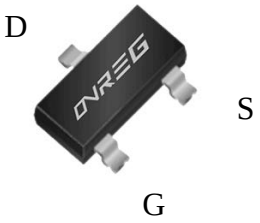
- ✧ DC/DC converters
- ✧ Power supply converters circuit
- ✧ Load/Power Switching for portable device

Mechanical Data

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



Circuit Diagram



SOT-23

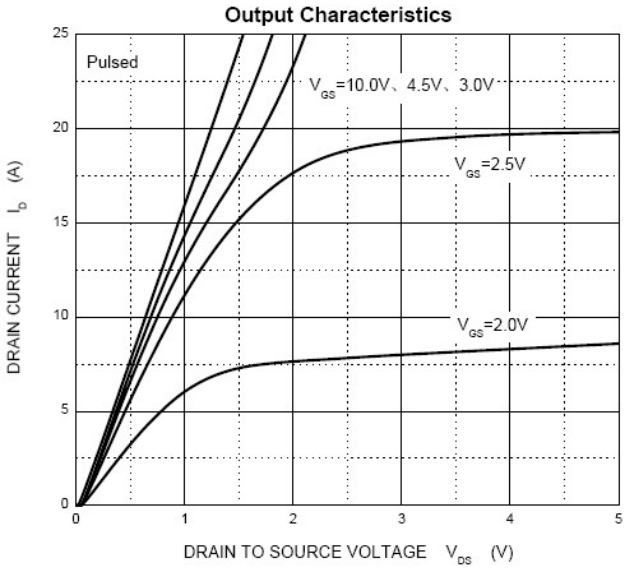
Absolute Maximum Rating at T_A = 25℃, unless otherwise specified

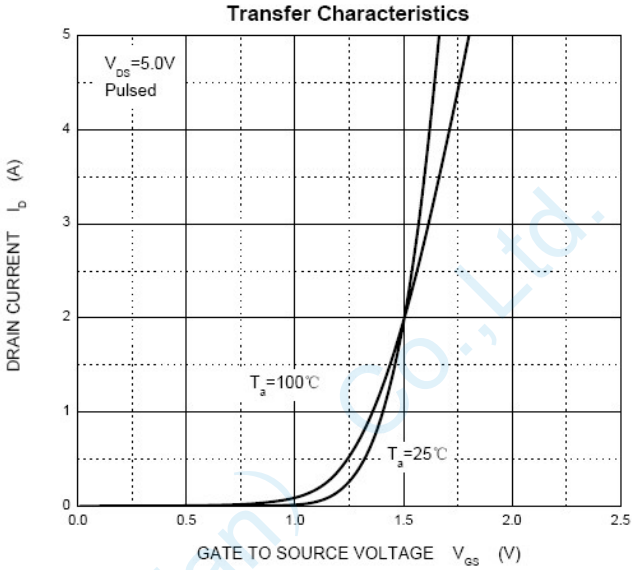
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±12	
Continuous Drain Current	T_A=25°C	I_D	4.8	A
Maximum Power Dissipation		P_D	0.35	W
Pulsed Drain Current		I_{DM}	30	A
Operating Junction Temperature		T_J	-55 to 150	°C
Lead Temperature		T_L	260	°C
Storage Temperature Range		T_{stg}	-55 to 150	°C

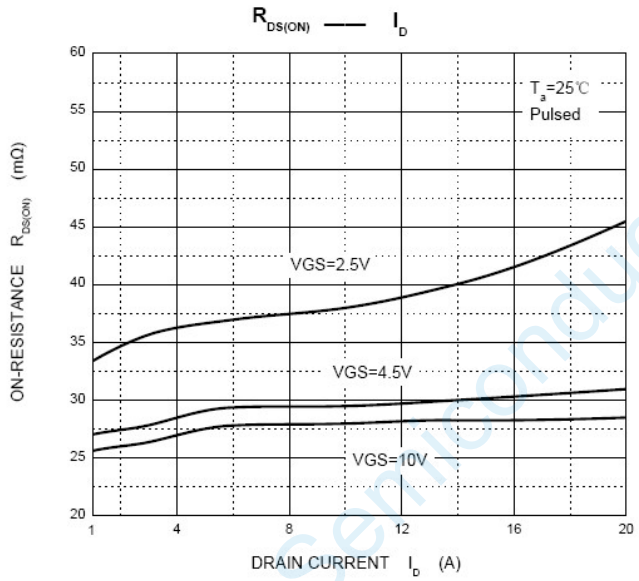
Electronics Characteristics (Ta=25°C, unless otherwise noted)

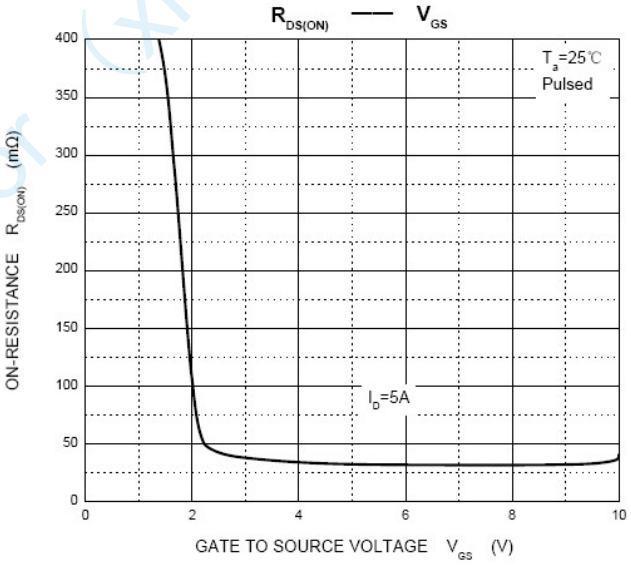
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-to-Source Breakdown Voltage	BV_{DSS}	V_{GS} = 0 V, I_D = 250uA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =24V, V_{GS} = 0V			1	uA
Gate-to-source Leakage Current	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±12V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	V_{GS} = V_{DS}, I_D = 250uA	0.6		1.4	V
Drain-to-source On-resistance	$R_{DS(on)}$	V_{GS} =10V, I_D = 5.8A			35	mΩ
		V_{GS} =4.5V, I_D = 5.0A			40	
		V_{GS} =2.5V, I_D =4.0A			56	
CHARGES, CAPACITANCES AND GATE RESISTANCE						
Input Capacitance	C_{ISS}	V_{GS} = 0 V, f = 1.0MHz, V_{DS} =15V		823		pF
Output Capacitance	C_{OSS}			99		
Reverse Transfer Capacitance	C_{RSS}			77		
Total Gate Charge	$Q_{G(TOT)}$	V_{GS} =4.5 V, V_{DS} =15 V, I_D =5.8A		9.7		nC
Gate-to-Source Charge	Q_{GS}			1.6		
Gate-to-Drain Charge	Q_{GD}			3.1		
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	td(ON)	V_{GS} =10 V, V_{DS} =15V, R_L=2.7Ω, R_G=3Ω		3.3		ns
Rise Time	tr			4.8		
Turn-Off Delay Time	td(OFF)			26.3		
Fall Time	tf			4.1		
BODY DIODE CHARACTERISTICS						
Forward Voltage	V_{SD}	V_{GS} = 0 V, I_S = 1A		0.7	1.2	V

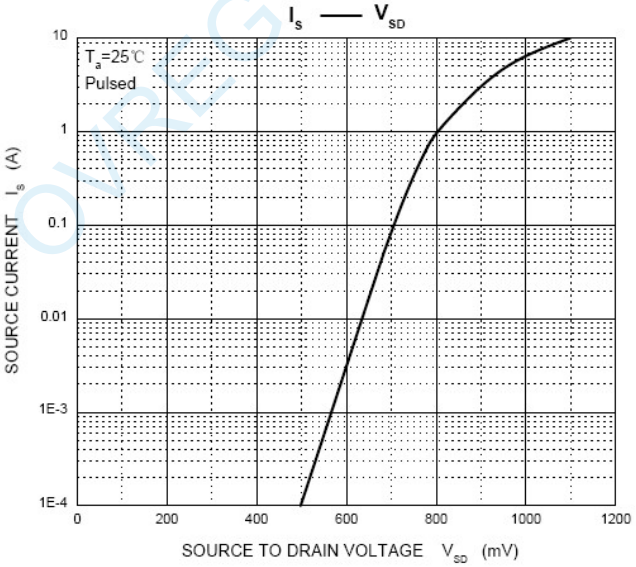
Electronics Characteristics (Ta=25°C, unless otherwise noted)

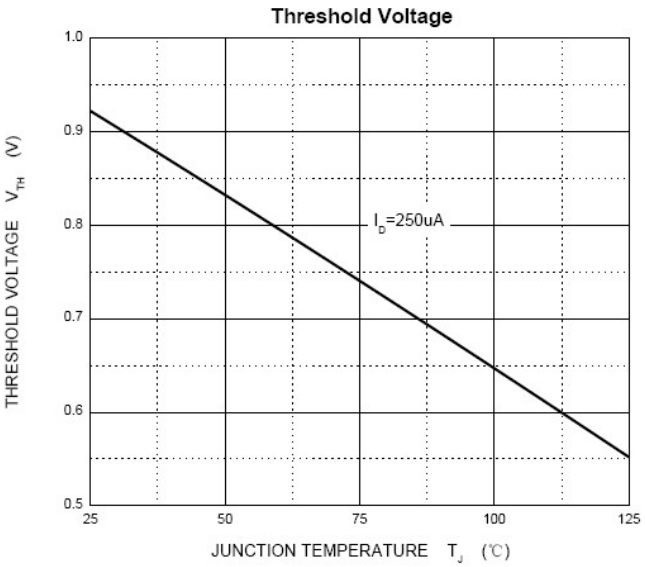




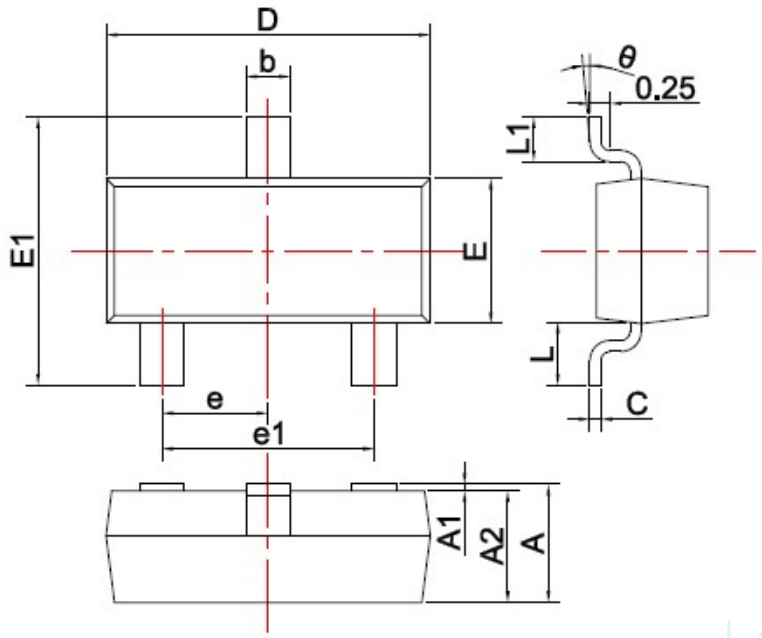








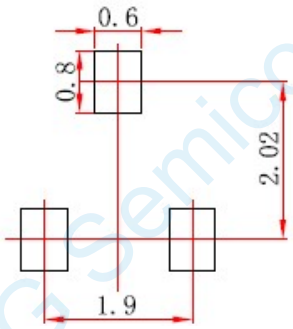
Package information



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

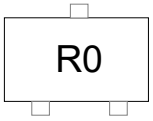
Unit: mm

Recommend PCB Layout



Note:
1.Controlling dimension:In millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

Marking



Ordering Information

Part number	Material	Type	Reel size	MOQ	MOQ/internal box	MOQ/carton
OVM30N40T	GREEN	T/R	7 inch	3k/reel	10reel= 30k/box	4boxes=120k/carton