Single P-Channel, -30V, -4.2A, Power MOSFET

Features

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

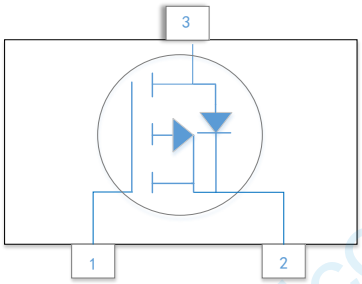
V_{DS} (V)	Typical $R_{DS(on)}$ (mΩ)
-30	50 @ V_{GS}=-10V
	65 @ V_{GS}=-4.5V
	75 @ V_{GS}=-2.5V

Applications

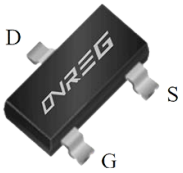
- ✧ DC/DC converters
- ✧ Power supply converters circuit
- ✧ Load/Power Switching for portable device

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	-4.2	A
	T_A=70°C		-3.5	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

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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	-0.7	-0.9	-1.3	V
Drain-to-source On-resistance	$R_{DS(on)}$	V_{GS} =-10V, I_D = -4.0A		50	65	mΩ
		V_{GS} =-4.5V, I_D = -3.0A		65	75	
		V_{GS} =-2.5V, I_D = -1.2A		75	90	
CHARGES, CAPACITANCES AND GATE RESISTANCE						
Input Capacitance	C_{ISS}	V_{GS} = 0 V, f = 1.0MHz, V_{DS} = -15V		954		pF
Output Capacitance	C_{OSS}			115		
Reverse Transfer Capacitance	C_{RSS}			77		
Total Gate Charge	$Q_{G(TOT)}$	V_{GS} = -4.5 V, V_{DS} = -15 V, I_D =-4.0 A		9.4		nC
Gate-to-Source Charge	Q_{GS}			2.0		
Gate-to-Drain Charge	Q_{GD}			3.0		
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	td(ON)	V_{GS} = -10 V, V_{DS} =-15V, I_D=-1A, R_G=6Ω		6.3		ns
Rise Time	tr			3.2		
Turn-Off Delay Time	td(OFF)			38.2		
Fall Time	tf			12		
BODY DIODE CHARACTERISTICS						
Forward Voltage	V_{SD}	V_{GS} = 0 V, I_S = -1A			-1.0	V

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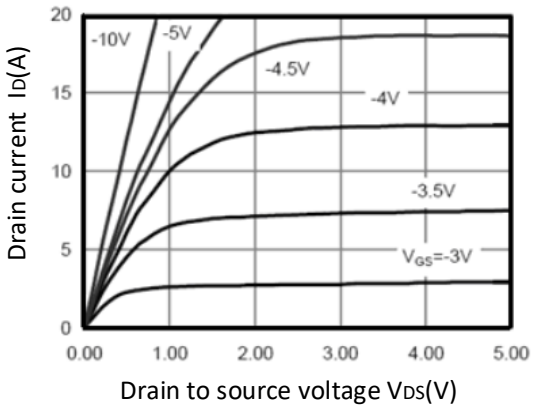
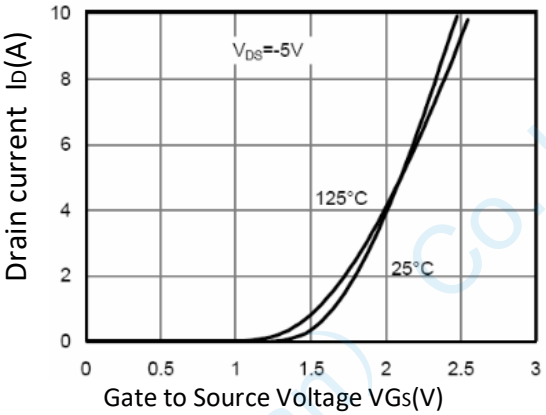
Electronics Characteristics (Ta=25°C, unless otherwise noted)

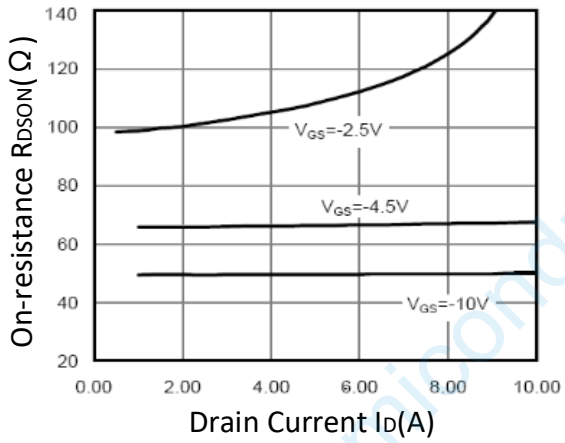
Output Characteristic



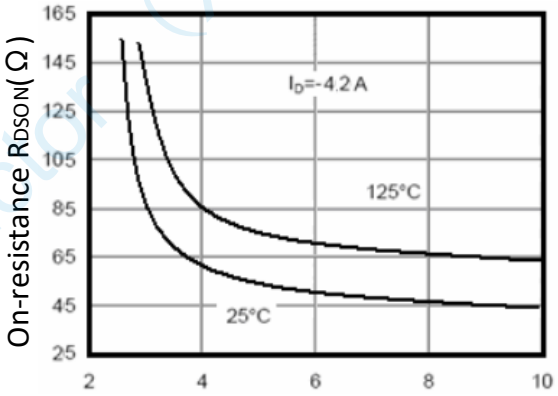
Transfer Characteristic



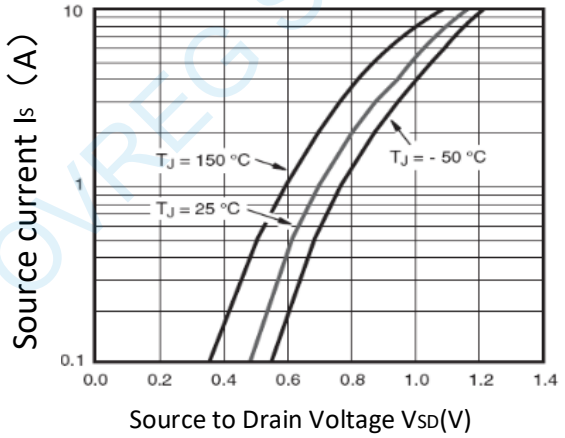
RDS(ON) VS. ID



RDS(ON) VS. VGS



IS VS. VSD



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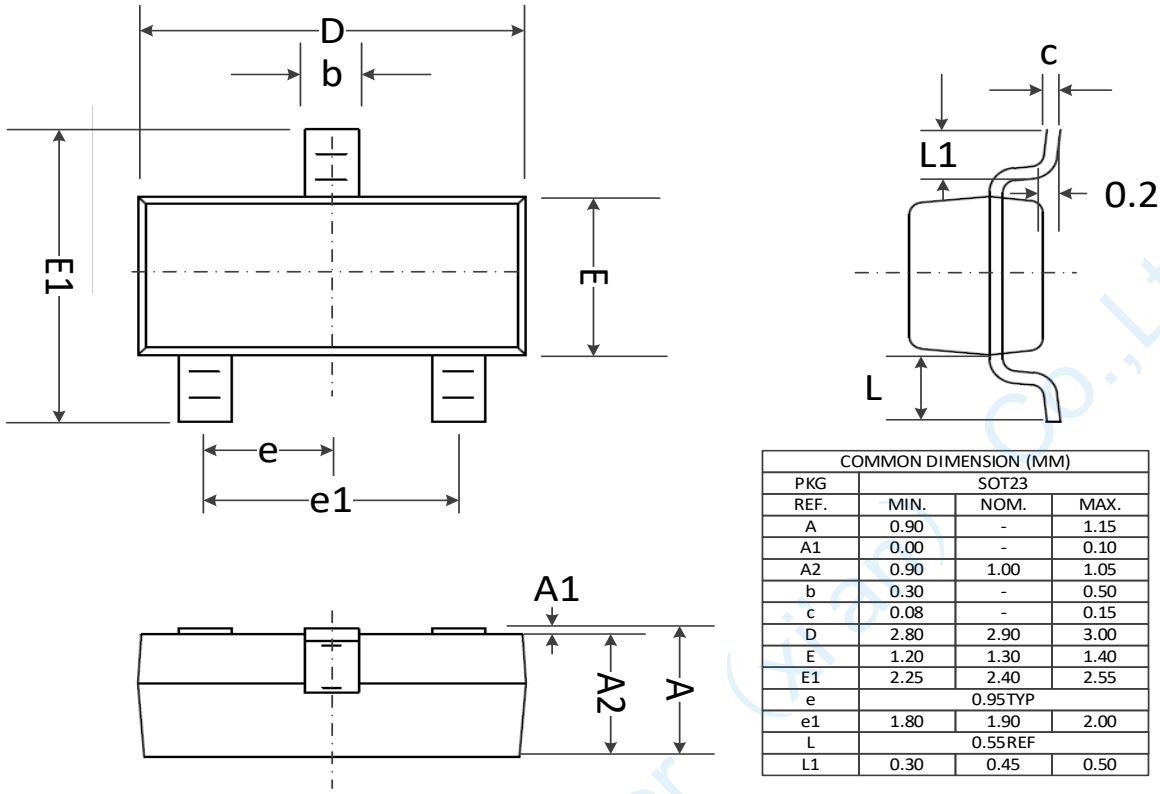
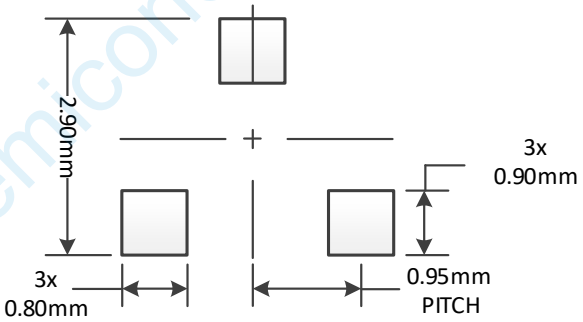
Package information



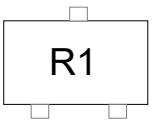
COMMON DIMENSION (MM)			
PKG	SOT23		
REF.	MIN.	NOM.	MAX.
A	0.90	-	1.15
A1	0.00	-	0.10
A2	0.90	1.00	1.05
b	0.30	-	0.50
c	0.08	-	0.15
D	2.80	2.90	3.00
E	1.20	1.30	1.40
E1	2.25	2.40	2.55
e	0.95TYP		
e1	1.80	1.90	2.00
L	0.55REF		
L1	0.30	0.45	0.50

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
OVM30P65T	GREEN	T/R	7 inch	3k/reel	10reel= 30k/box	4boxes=120k/carton

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