Single P-Channel, -20V, -6.0A, MOSFET

Features

- ✧ Trench Technology
- ✧ Supper high density cell design
- ✧ Excellent ON resistance
- ✧ Extremely Low Threshold Voltage
- ✧ Small package SOT23-3L

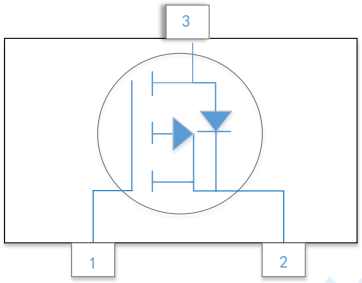
V_{DS} (V)	Typical $R_{DS(on)}$ (mΩ)
-20	20 @ V_{GS}=-4.5V
	25 @ V_{GS}=-2.5V

Applications

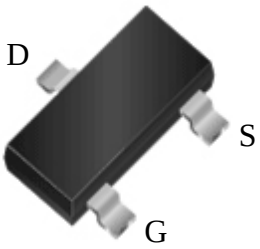
- ✧ PWM Applications
- ✧ Power supply converters circuit
- ✧ Load/Power Switching for portable device

Mechanical Data

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



Circuit Diagram



SOT23-3L

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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±12	
Continuous Drain Current	T_A=25°C	I_D	-6.0	A
	T_A=100°C		-4.0	
Maximum Power Dissipation		P_D	1.2	W
Pulsed Drain Current		I_{DM}	-24	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

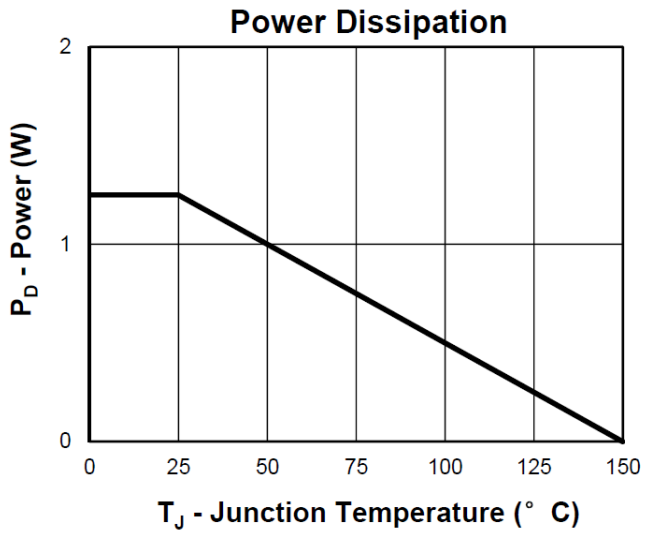
OVREG Semiconductor (xi'an) Co.,Ltd.

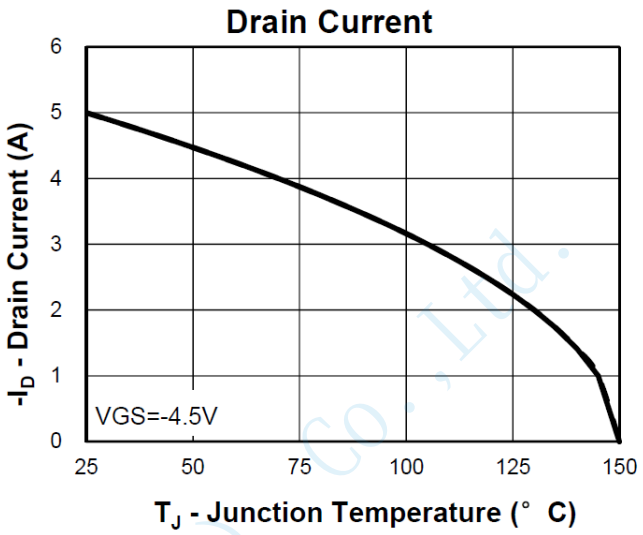
Electronics Characteristics (Ta=25°C, unless otherwise noted)

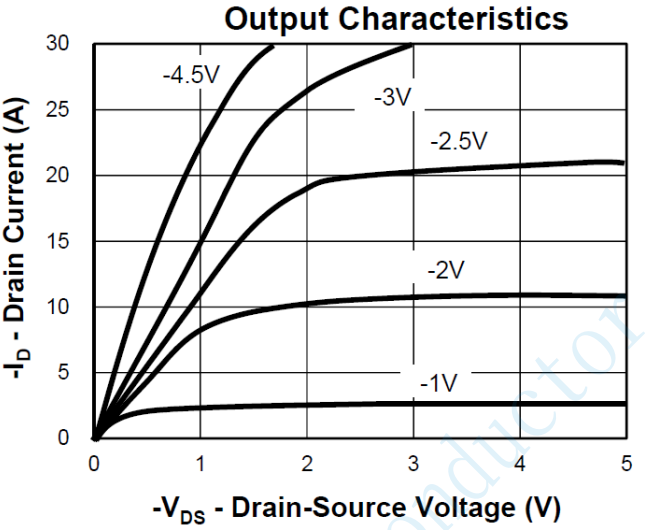
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-to-Source Breakdown Voltage	BV_{DSS}	V_{GS} = 0 V, I_D = -250uA	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =-20V, V_{GS} = 0V			-1	uA
Gate-to-source Leakage Current	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±12V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	V_{GS} = V_{DS}, I_D = -250uA	-0.5	-0.7	-1.0	V
Drain-to-source On-resistance	$R_{DS(on)}$	V_{GS} =-4.5V, I_D = -6.0A		20	25	mΩ
		V_{GS} =-2.5V, I_D = -5.0A		25	30	
CHARGES, CAPACITANCES AND GATE RESISTANCE						
Input Capacitance	C_{ISS}	V_{GS} = 0 V, f = 1.0MHz, V_{DS} = -10V		2100		pF
Output Capacitance	C_{OSS}			498		
Reverse Transfer Capacitance	C_{RSS}			300		
Total Gate Charge	$Q_{G(TOT)}$	V_{GS} = -4.5 V, V_{DS} = -10 V, I_D =-4.5 A		17		nC
Gate-to-Source Charge	Q_{GS}			4.1		
Gate-to-Drain Charge	Q_{GD}			4.3		
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	td(ON)	V_{DD} = -10 V, V_{GEN} =-4.5V, I_D=-2.8A, R_G=6Ω, R_L=10Ω		25		ns
Rise Time	tr			30		
Turn-Off Delay Time	td(OFF)			70		
Fall Time	tf			50		
BODY DIODE CHARACTERISTICS						
Forward Voltage	V_{SD}	V_{GS} = 0 V, I_S = -1.25A		-0.81	-1.2	V

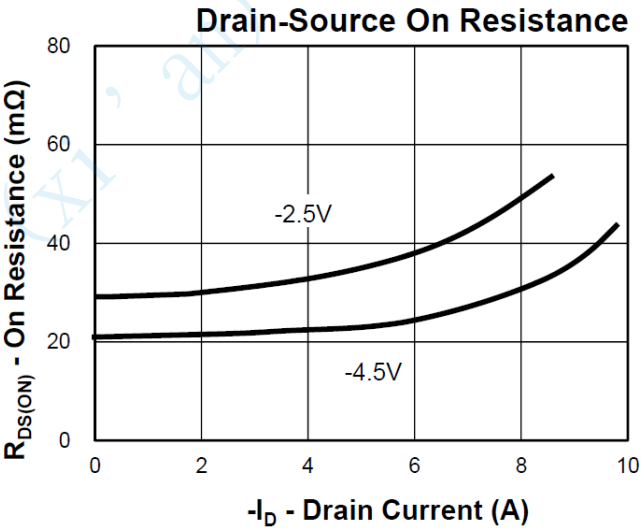
OVREG Semiconductor (xi'an) Co.,Ltd.

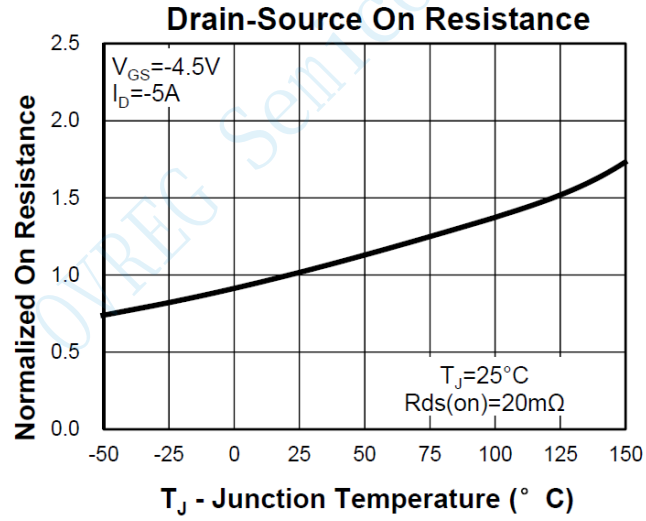
Electronics Characteristics (Ta=25°C, unless otherwise noted)

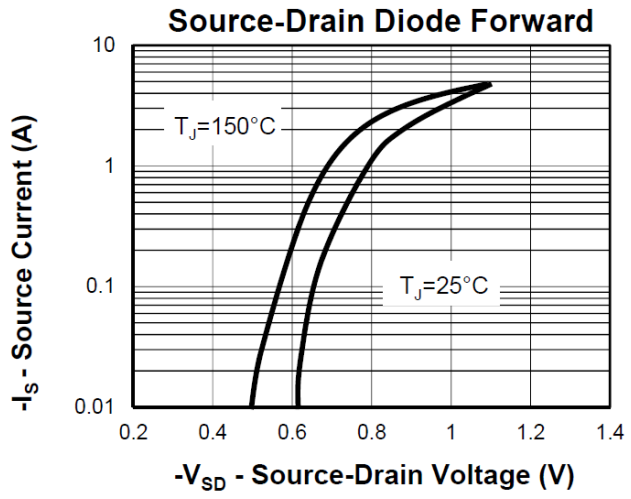






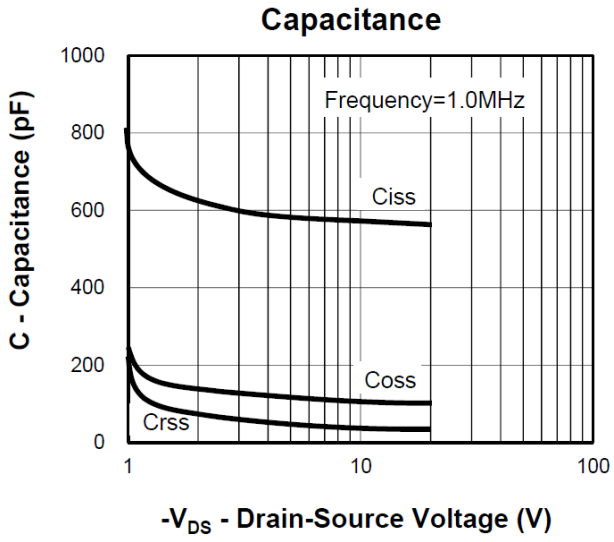


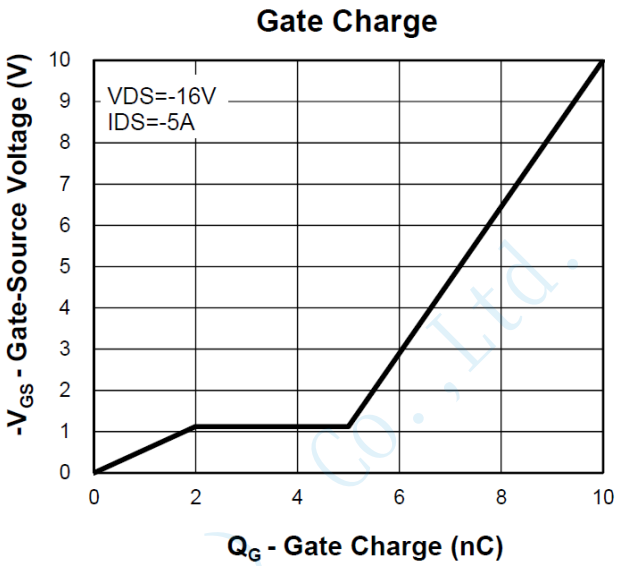


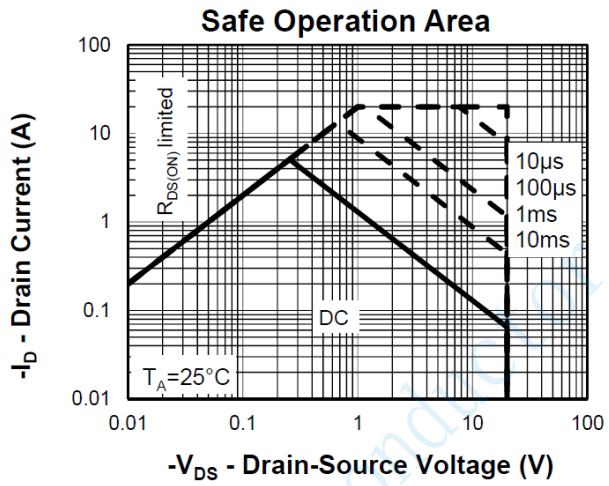


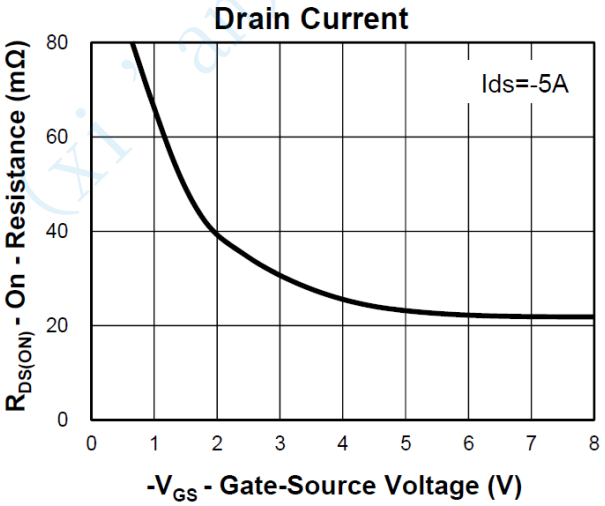
OVREG Semiconductor (xi'an) Co., Ltd.

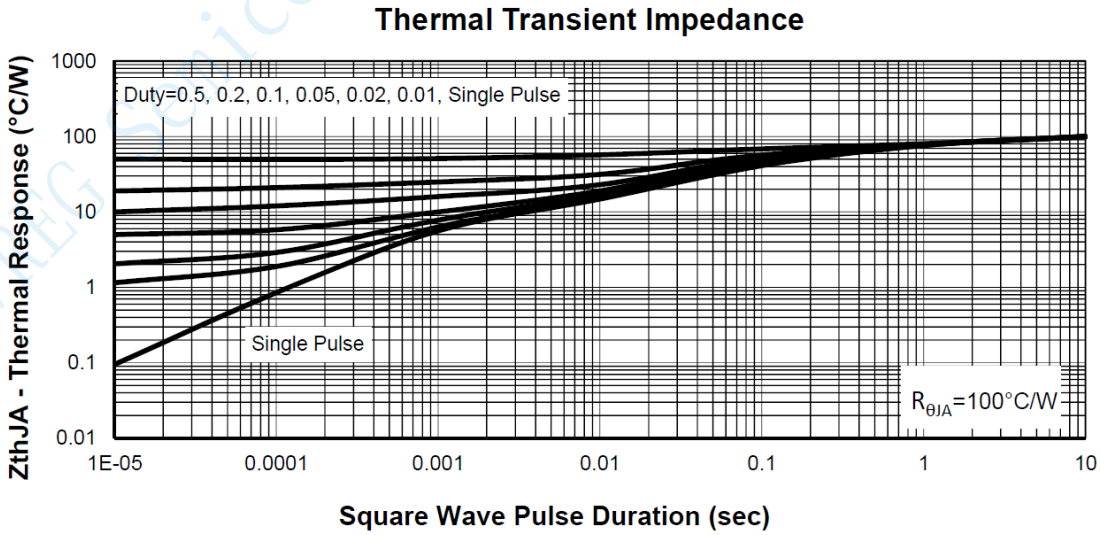
Electronics Characteristics (Ta=25°C, unless otherwise noted)







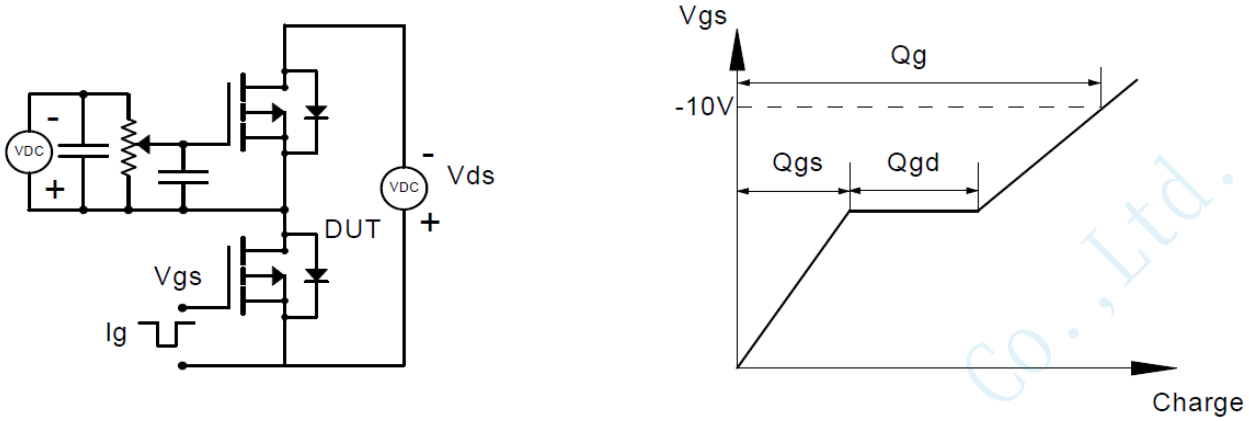




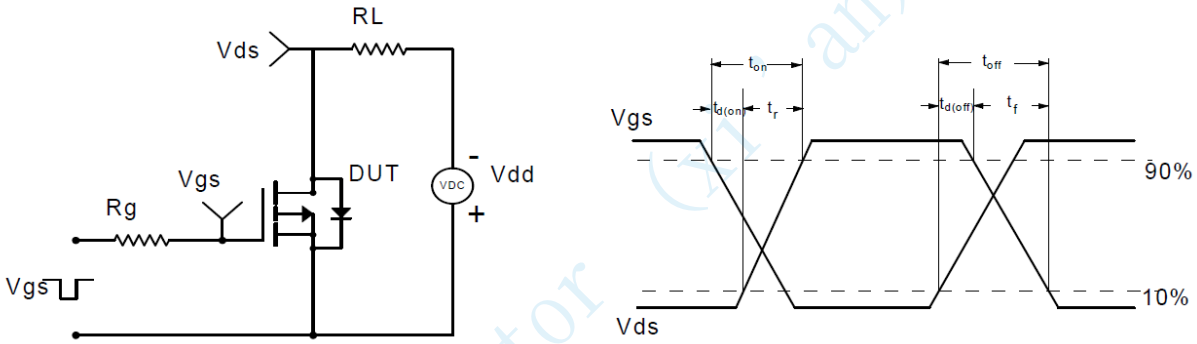
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Test circuit and waveform

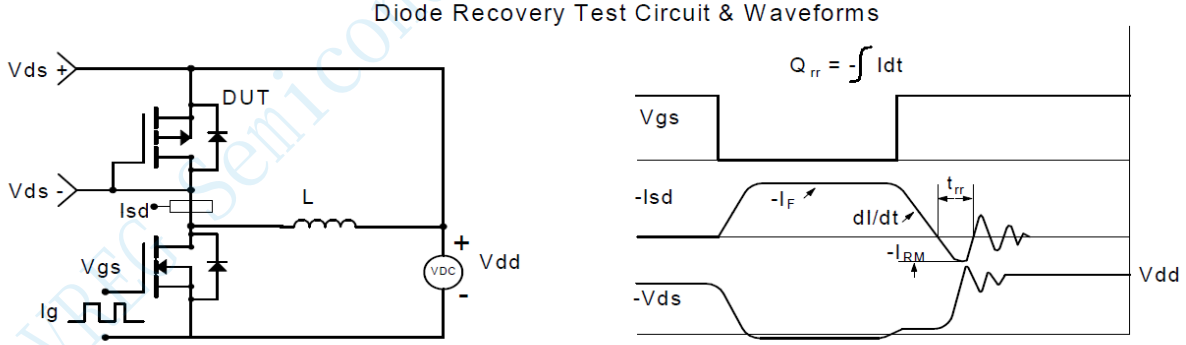
Gate Charge Test Circuit & Waveform



Resistive Switching Test Circuit & Waveforms

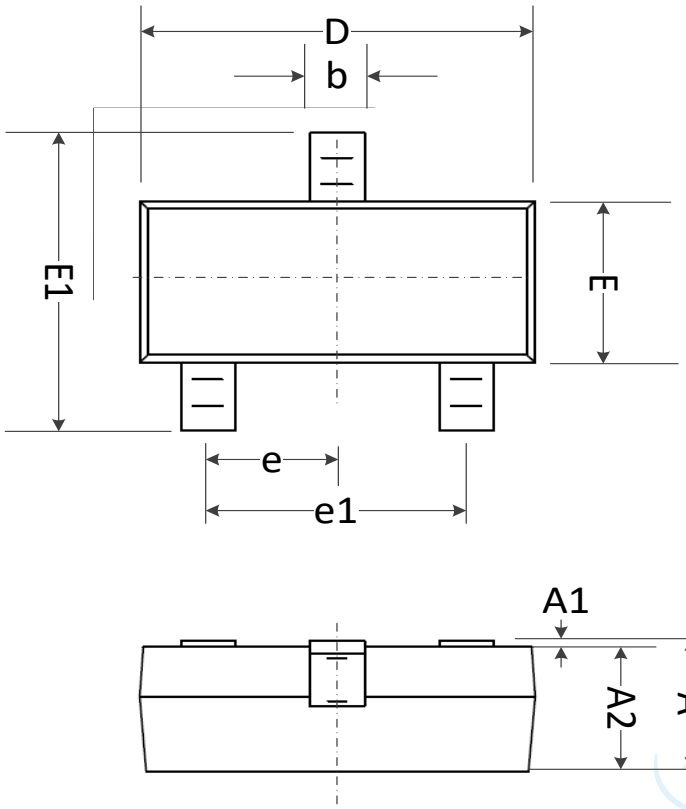


Diode Recovery Test Circuit & Waveforms



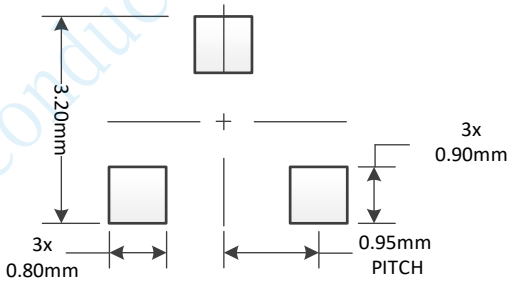
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Package information



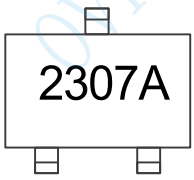
COMMON DIMENSION (MM)			
PKG	SOT23-3L		
REF.	MIN.	NOM.	MAX.
A	1.05	1.15	1.25
A1	0.00	-	0.10
A2	1.05	-	1.15
b	0.30	-	0.40
c	0.10	-	0.20
D	2.82	-	3.02
E	1.50	1.60	1.70
E1	2.65	2.80	2.95
e	0.95BSC		
e1	1.80	1.90	2.00
L	0.30	-	0.60

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
OVM20P20T1	GREEN	T/R	7 inch	3k/reel	10reel= 30k/box	4boxes=120k/carton