

N-Channel Enhancement Mode MOSFET

● DESCRIPTION

The VIC1231 is the n-channel logic enhancement mode power field effect transistor is produced using high cell density, advanced trench technology to provide excellent $R_{ds(on)}$.

This device is suitable for use as a load switch or in PWM applications.

These devices are particularly suited for low voltage application, and low in-line power loss are needed in a very small outline surface mount package.

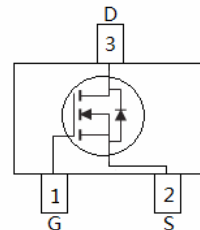
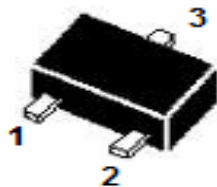
● FEATURE

- ◆ $V_{DS}=30V$; $V_{GS}=\pm 12V$; $I_D=5.2A$
- ◆ $R_{DS(ON)}=24\ m\Omega$ (TYP.)@ $V_{GS}=10V$
- ◆ $R_{DS(ON)}=32m\Omega$ (TYP.)@ $V_{GS}=4.5V$

● APPLICATIONS

- ◆ Power Management in Notebook
- ◆ Potable Equipment
- ◆ Battery Powered System
- ◆ DC/DC Converter
- ◆ Load Switch, DSC LCD Display inverter

● PIN CONFIGURATION



● ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ C$ Unless otherwise noted)

Symbol	Parameter	Rating		Unit
V_{DS}	Drain-Source Voltage	30		V
V_{GS}	Gate-Source Voltage	± 12		
I_D	Continuous Drain Current	$V_{GS}=4.5V$	5.2	A
IDP	Power Dissipation	30		A
T_J	Maximum Junction Temperature	150		$^\circ C$
TSTG	Storage Temperature Range	-55 to 150		
PD	Maximum Power Dissipation ($T_A=25^\circ C$)	1.4		W



● ELECTRICAL CHARACTERISTICS (TA=25°C Unless otherwise noted)

Symbol	Parameter	Test Conditions	VIC1231DJ			Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =10μA	30	34	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =24V, V _{GS} =0V	--	--	1	μA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	0.7	0.8	1.0	V
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±12V, V _{DS} =0V	--	--	±100	μA
R _{DS(ON)} a	Drain-Source On-state Resistance	V _{GS} =10V, I _D =5.2A	--	24	28	mΩ
		V _{GS} =4.5V, I _D =5A	--	27	33	
		V _{GS} =2.5V, I _D =3.7A	--	35	64	
Dynamic b						
Q _g	Total Gate Charge	V _{GS} =4.5V, V _{DS} =10V, I _{DS} =5.2A	--	6	--	nC
Q _{gs}	Gate-Source Charge		--	1.0	--	
Q _{gd}	Gate-Drain Charge		--	1.5	--	
SWITCHING CHARACTERISTICS						
t _{d(ON)}	Turn-on Delay Time	V _{DD} =15V, R _L =2.3Ω, I _{DS} =1.0A, V _{GEN} =4.5V, R _G =3Ω	--	--	18	ns
t _{d(OFF)}	Turn-off Delay Time		--	--	70	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
V _{sD} a	Diode Forward Voltage	I _S = 1A, V _{GS} = 0V	--	0.71	1	V

Notes:

- a. DUT is mounted on a 1in² FR-4 board with 2oz. Copper in a still air environment at 25°C.
b. Repetitive rating. Pulse width limited by junction temperature.

The products and product specifications contained herein are subject to change without notice to improve performance characteristics. consult us, or our representatives before use, to confirm that the information in this datasheet is up to date.

we assume no responsibility for any infringement of patents, patent rights, or other rights arising from the use of any information and circuitry in this datasheet.

● TYPICAL CHARACTERISTICS (TA=25°C Unless otherwise noted)

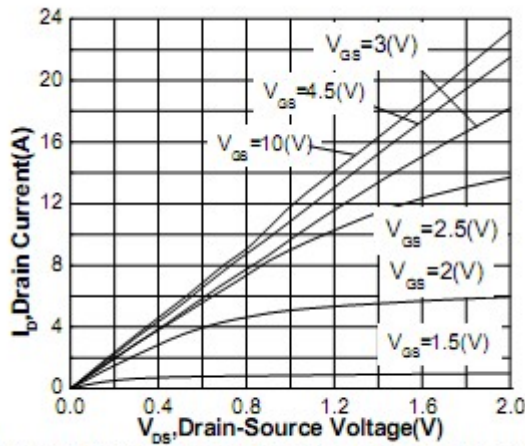


Figure1. Drain-source Voltage vs Drain Current

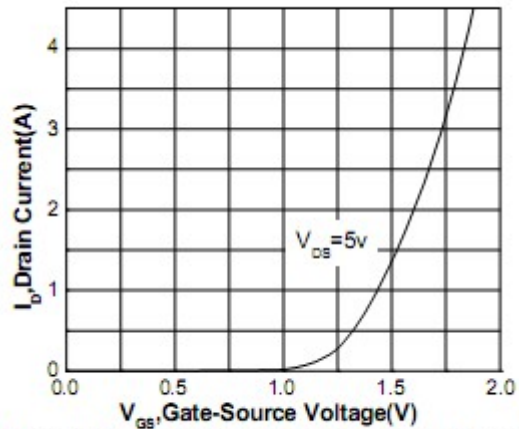


Figure2. Gate-Source Voltage vs Drain Current

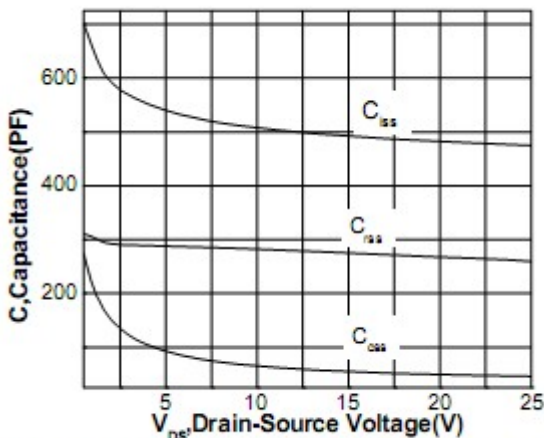


Figure3. Drain-Source Voltage vs Capacitance

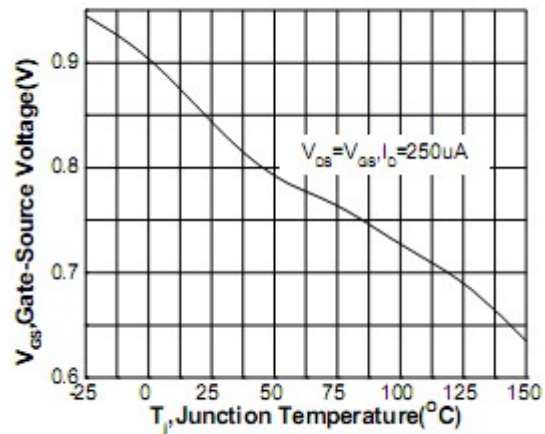


Figure4. Junction Temperature vs Gate-Source Voltage

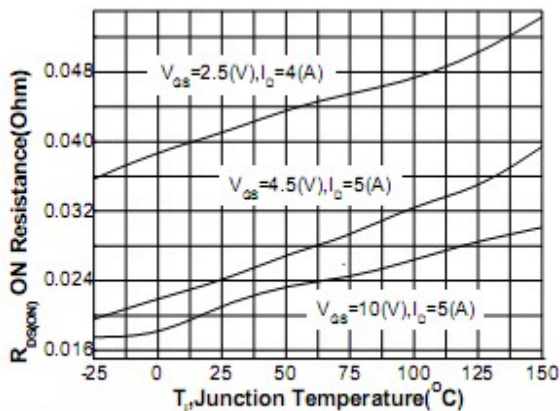


Figure5. Junction Temperature vs ON Resistance

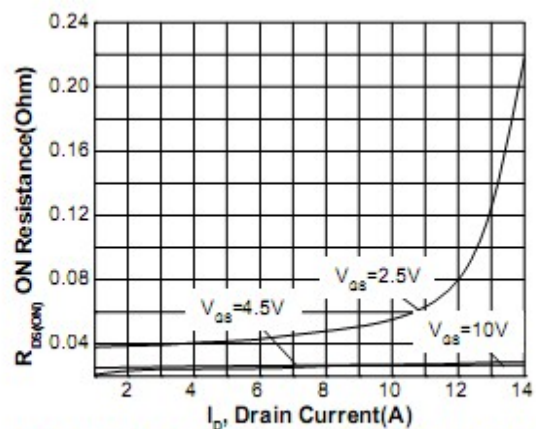
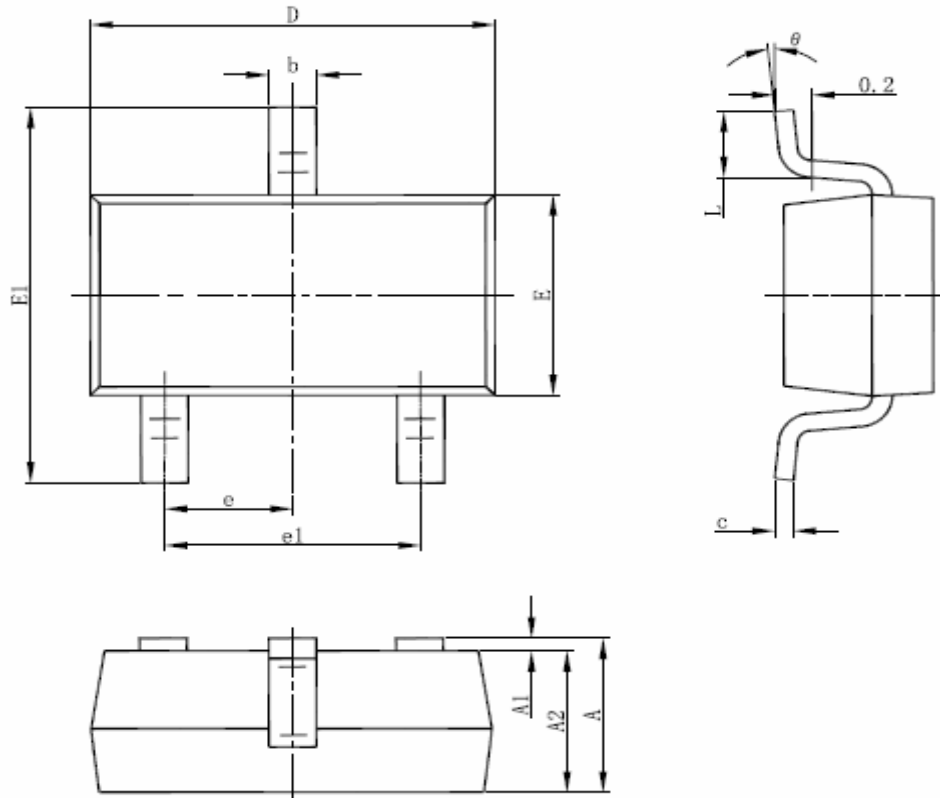


Figure6. Drain Current vs ON Resistance

● ORDERING INFORMATION

Part Number	Package code	Shipping
VIC1231DJ	DJ: SOT23-3L	3000/Tape & Reel

● PACKAGE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
theta	0°	8°	0°	8°

单击下面可查看定价，库存，交付和生命周期等信息

[>>VIC\(微科\)](#)