

N-Channel Enhancement Mode MOSFET

● DESCRIPTION

The VIC1221 is the n-channel logic enhancement mode power field effect transistor is produced using high cell density. advanced trench technology to provide excellent Rds(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.

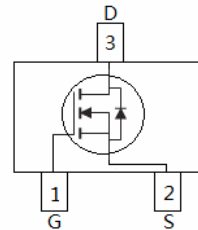
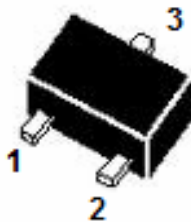
● FEATURE

- ◆ $V_{DS}=20V; V_{GS}=\pm 8V; I_D=2.2A$
- ◆ $R_{DS(ON)}=75m\Omega$ (TYP.)@ $V_{GS}=4.5V$
- ◆ $R_{DS(ON)}=90m\Omega$ (TYP.)@ $V_{GS}=2.5V$

● APPLICATIONS

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

● PIN CONFIGURATION



● ABSOLUTE MAXIMUM RATINGS(TA=25°C Unless otherwise noted)

Symbol	Parameter	Rating		Unit
VDS	Drain-Source Voltage	20		V
VGS	Gate-Source Voltage	±8		
ID	Continuous Drain Current	VGS=4.5V	2.2	A
IDP	Power Dissipation	10		A
TJ	Maximum Junction Temperature	-55 to +150		°C
TSTG	Storage Temperature Range	-55 to +150		
PD	Maximum Power Dissipation (Ta=25°C)	1		W



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

Symbol	Parameter	Test Conditions	VIC1221DI			Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =10μA	20	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =20V, V _{GS} =0V	--	--	1	μA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =50μA	0.4	0.75	2.0	V
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±8V, V _{DS} =0V	--	--	±100	nA
R _{DS(ON)} a	Drain-Source On-state Resistance	V _{GS} =4.5V, I _D =2.2A	--	70	85	mΩ
		V _{GS} =2.5V, I _D =2A	--	90	115	
Dynamic b						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =10V, Frequency=1.0MHz	--	450	--	pF
C _{oss}	Output Capacitance		--	70	--	
C _{rss}	Reverse Transfer Capacitance		--	43	--	
SWITCHING CHARACTERISTICS						
t _{d(ON)}	Turn-on Delay Time	V _{DD} =-6V, R _L =6Ω, I _{DS} =-1.0A, V _{GEN} =-4.5V, R _G =6Ω	--	15	--	ns
t _{d(OFF)}	Turn-off Delay Time		--	60	--	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
V _{sD} a	Diode Forward Voltage	I _s = 1.1A, V _{GS} =0V	0.6	0.8	1.15	V

Notes:

- a. Surface Mounted on FR4 Board.T<10 sec.
- b. Pulse test:PW < 300μs,duty cycle < 2%.

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)**

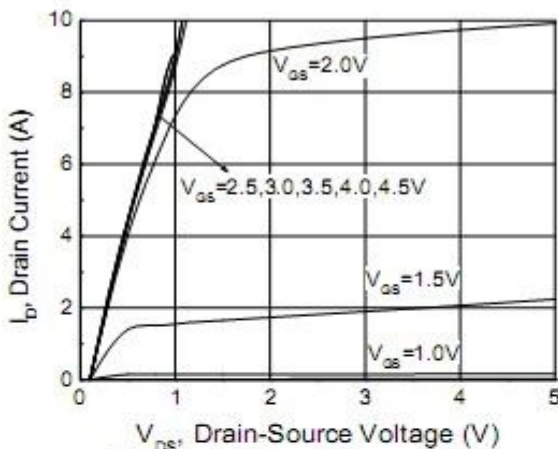


Figure 1. Output Characteristics

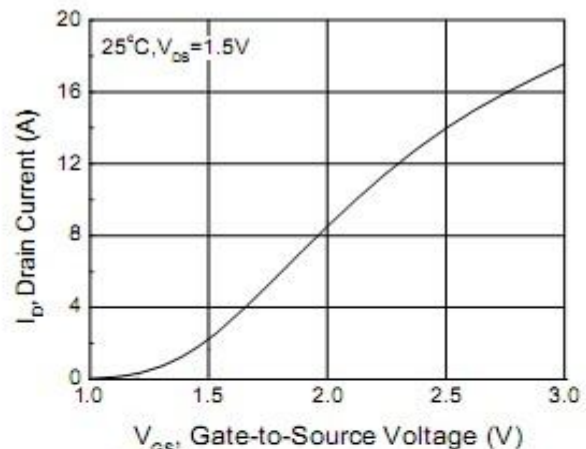


Figure 2. Transfer Characteristics

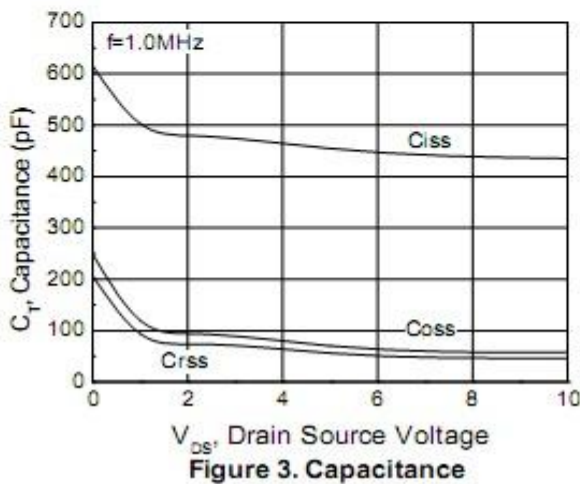


Figure 3. Capacitance

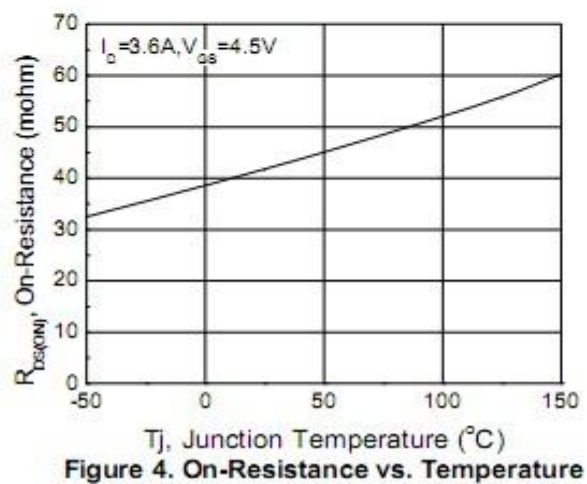


Figure 4. On-Resistance vs. Temperature

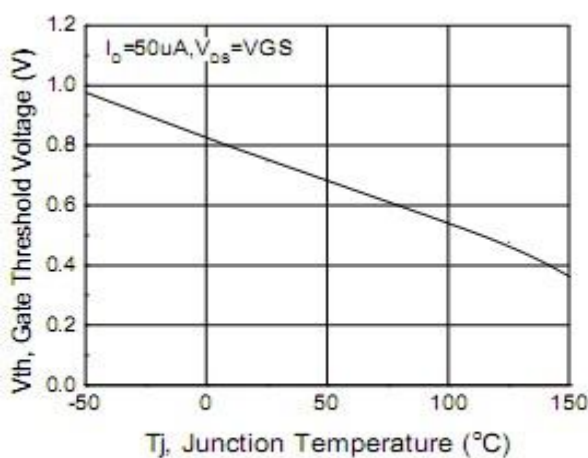


Figure 5. Gate Threshold Vs. Temperature

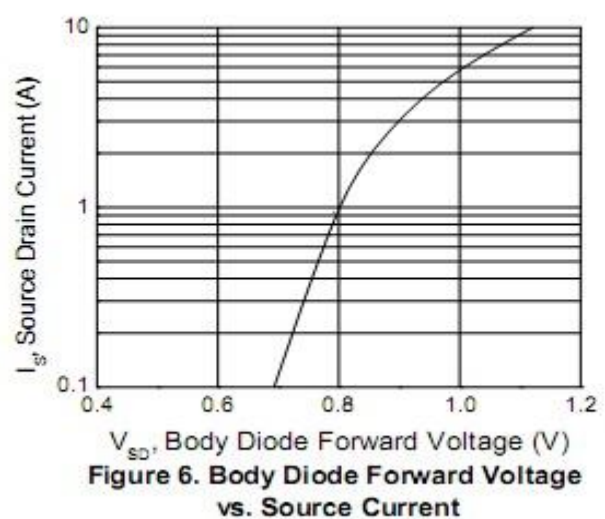


Figure 6. Body Diode Forward Voltage vs. Source Current

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

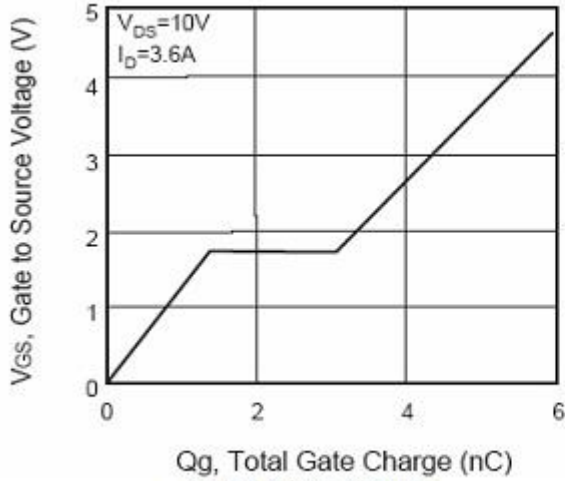


Figure 7. Gate Charge

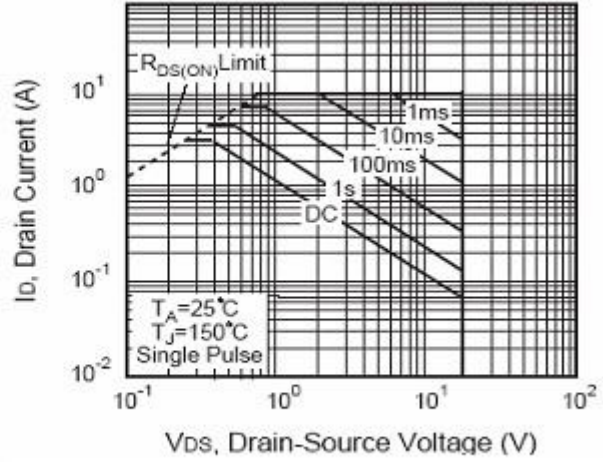
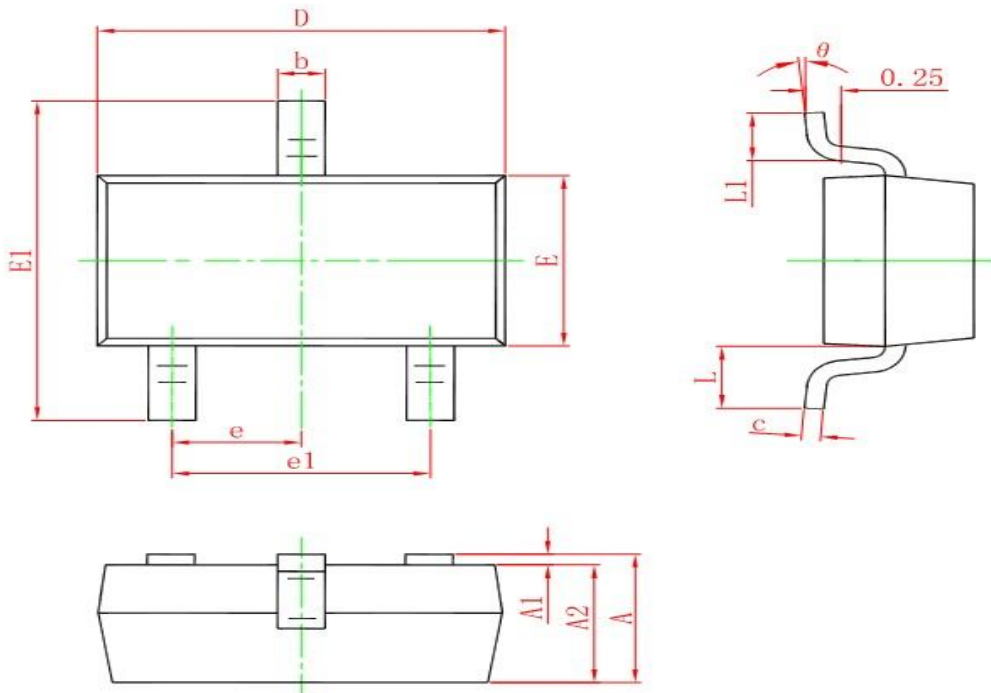


Figure 8. Maximum Safe Operating Area

● ORDERING INFORMATION

Part Number	Package code	Shipping
VIC1221DI	DI: SOT23	3000/Tape & Reel

● PACKAGE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	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\(微科\)](#)