

N-Channel Enhancement Mode MOSFET

● DESCRIPTION

The VIC1233 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.

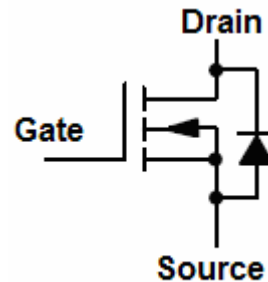
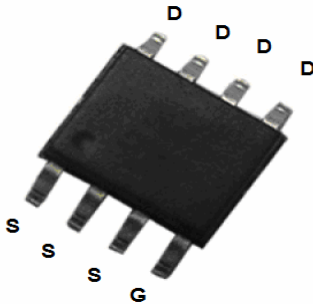
● FEATURE

- ◆ VDS=30V; VGS=±20V; ID=12A
- ◆ RDS(ON)=10mΩ (TYP.)@VGS=10V
- ◆ RDS(ON)=15mΩ (TYP.)@VGS=4.5V

● APPLICATIONS

- ◆ Load Switch
- ◆ Networking DC/DC Power System
- ◆ LCD-TV ,LCD-Monitor,NB,UMPC

● PIN CONFIGURATION



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

Symbol	Parameter	Rating		Unit
VDS	Drain-Source Voltage	30		V
VGS	Gate-Source Voltage	±20		
ID	Continuous Drain Current	VGS=10V	12	A
IDP	Drain Current (Pulse)	30		A
TJ	Maximum Junction Temperature	-55 to 150		°C
TSTG	Storage Temperature Range	-55 to 150		
PD	Maximum Power Dissipation (Ta=25°C)	2		W



VIC1233DQ

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

Symbol	Parameter	Test Conditions	VIC1233DQ			Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	30	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =20V, V _{GS} =0V	--	--	1	uA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	1.2	1.5	2.5	V
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
R _{DS(ON)} a	Drain-Source On-state Resistance	V _{GS} =10V, I _D =12A	--	10	12	mΩ
		V _{GS} =4.5V, I _D =8A	--	15	18	
g _{fs}	Forward Transconductance a	V _{ds} =5V, I _d =8A	--	24	--	S
Dynamic b						
Q _g	Total Gate Charge	V _{GS} =4.5V, V _{DS} =15V, I _d =8A	--	9.63	13.5	nC
Q _{gs}	Gate-Source Charge		--	3.88	5.4	
Q _{gd}	Gate-Drain Charge		--	3.44	4.8	
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =15V, f=1MHz	--	960	1406	pF
C _{oss}	Output Capacitance		--	142	191	pF
C _{rss}	Reverse Transfer Capacitance		--	121	162	pF
SWITCHING CHARACTERISTICS						
t _{d(ON)}	Turn-on Delay Time	V _{DD} =15V, I _D =8A, V _{GEN} =10V, R _G =1.5Ω	--	4.6	8.6	ns
t _{d(OFF)}	Turn-off Delay Time		--	33	63	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
I _s	Drain-Source Diode Forward Current	V _g =V _d =0V, Force Current	--	--	12	A
V _{sd} a	Diode Forward Voltage	I _s = 1A, V _{GS} = 0V	--	--	1	V

Notes:

- a. Pulse test; pulse width ≤ 300us, duty cycle ≤ 2%.
- b. Guaranteed by design, not subject to production testing.

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.

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

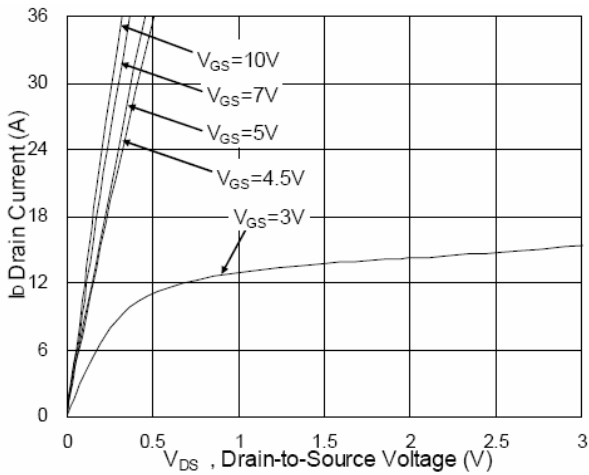


Fig.1 Typical Output Characteristics

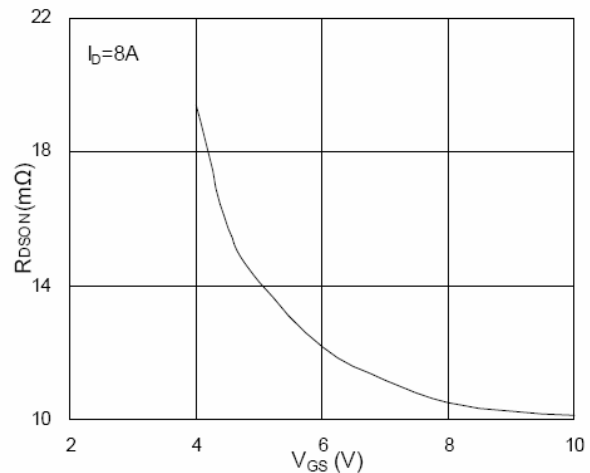


Fig.2 On-Resistance vs. G-s Voltage

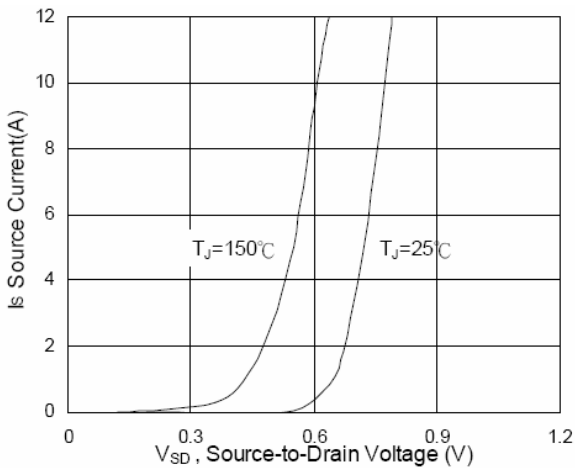


Fig.3 Forward Characteristics of Reverse

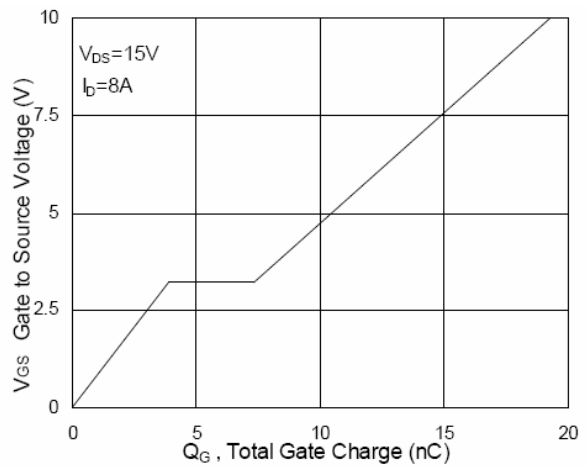


Fig.4 Gate-Charge Characteristics

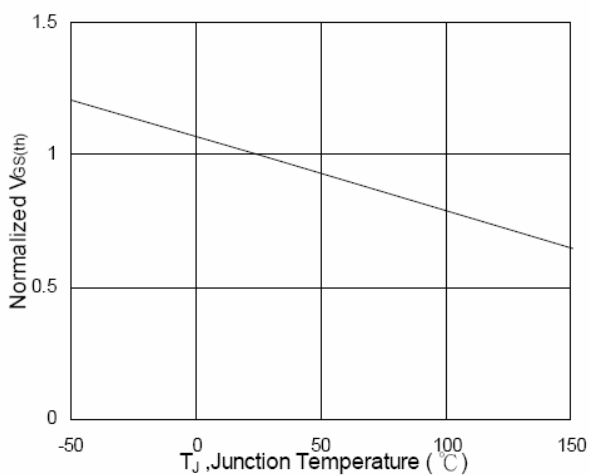


Fig.5 Normalized Vgs(th) vs. TJ

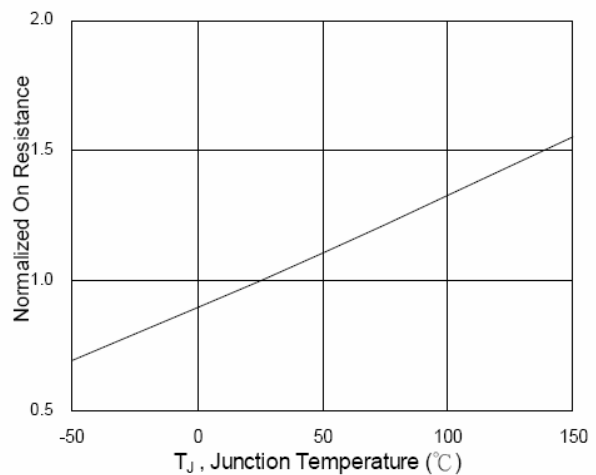


Fig.6 Normalized Rds(on) vs. TJ

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

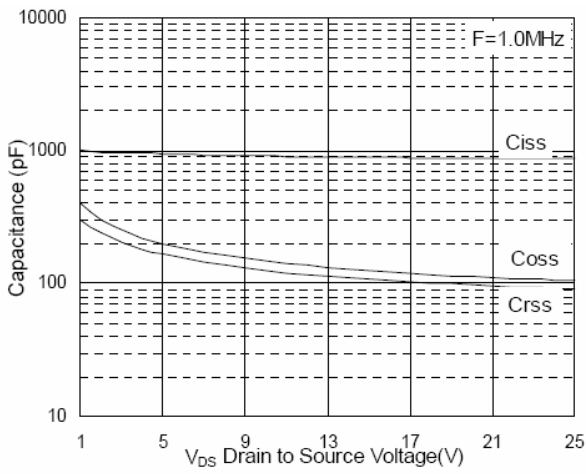


Fig.7 Capacitance

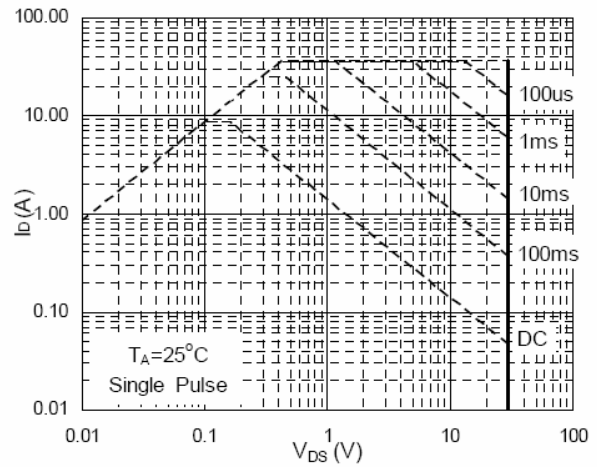


Fig.8 Safe Operating Area

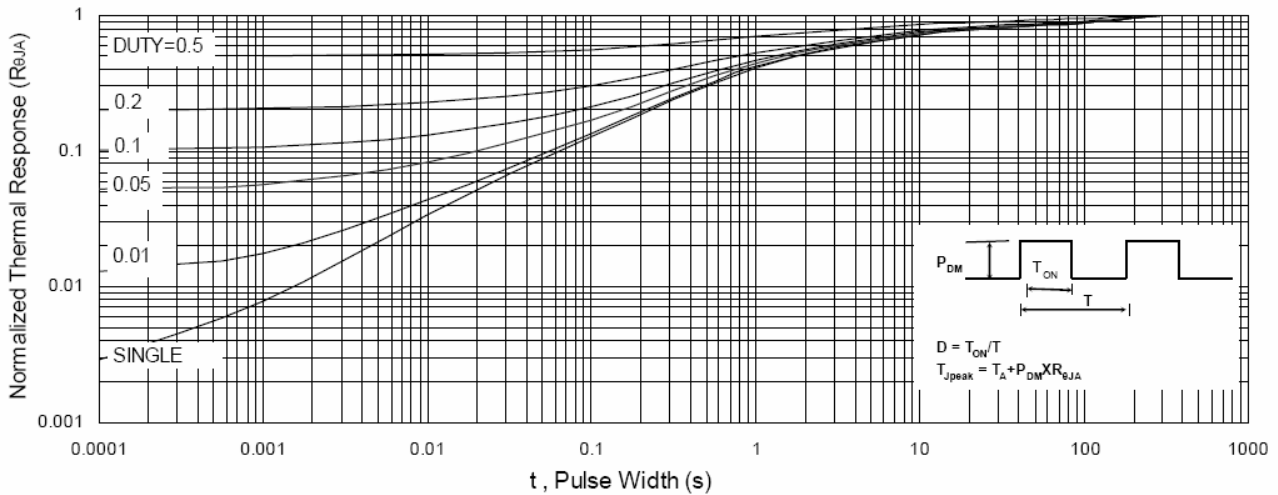
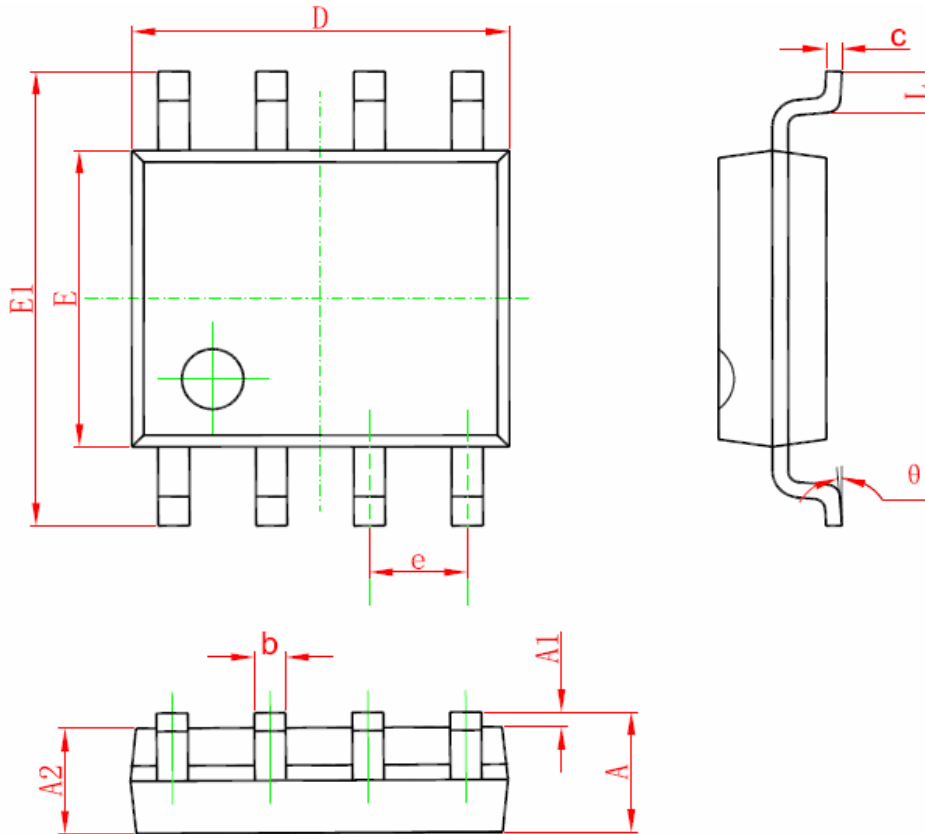


Fig.9 Normalized Maximum Transient Thermal Impedance

● ORDERING INFORMATION

Part Number	Package code	Shipping
VIC1233DQ	DQ: SOP8	2500/Tape & Reel

● PACKAGE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270 (BSC)		0.050 (BSC)	
L	0.400	1.270	0.016	0.050
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\(微科\)](#)