

N-Channel Enhancement Mode MOSFET

● DESCRIPTION

The VIC1281DQ uses advanced trench technology and design to provide excellent $R_{DS(ON)}$ with low gate charge.

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

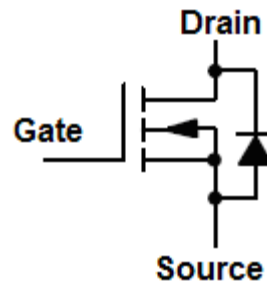
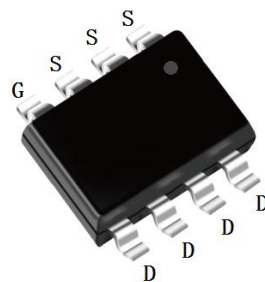
● FEATURE

- ◆ $V_{DS}=80V; V_{GS}=\pm 20V; I_D=15A$
- ◆ $R_{DS(ON)}=13m\Omega$ (TYP.) $V_{GS}=10V$

● APPLICATIONS

- ◆ High Frequency Point-of-load synchronous Buck Converter
- ◆ Uninterruptible power supply
- ◆ Networking DC-DC Power System
- ◆ Load/power switch

● PIN CONFIGURATION



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

Symbol	Parameter	Rating		Unit
V_{DS}	Drain-Source Voltage	80		V
V_{GS}	Gate-Source Voltage	± 20		
I_D	Continuous Drain Current	$V_{GS}=10V$	15	A
I_{DP}	Drain Current (Pulse)	30		A
T_J	Maximum Junction Temperature	150		$^\circ C$
T_{STG}	Storage Temperature Range	-55 to 150		
P_D	Maximum Power Dissipation ($T_a=25^\circ C$)	3		W
EAS C	Single pulse avalanche energy	450		mJ



● **ELECTRICAL CHARACTERISTICS**($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Symbol	Parameter	Test Conditions	VIC1281DQ			Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	80	--	--	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=80V, V_{GS}=0V$	--	--	1	μA
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1.5	2	2.5	V
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	± 100	nA
$R_{DS(ON) a}$	Drain-Source On-state Resistance	$V_{GS}=10V, I_D=15A$	--	13	16	m Ω
		--	--	--	--	
g_{fs}	Forward Transconductance a	$V_{ds}=10V, I_d=15A$	28	--	--	S
Dynamic b						
Q_g	Total Gate Charge(10V)	$V_{GS}=10V, V_{DS}=40V, I_D=6A$	--	34	--	nC
Q_{gs}	Gate-Source Charge		--	13	--	
Q_{gd}	Gate-Drain Charge		--	11	--	
C_{iss}	Input Capacitance	$V_{GS}=0V, V_{DS}=25V, f=1MHz$	--	2350	--	pF
C_{oss}	Output Capacitance		--	337	--	
C_{rss}	Reverse Transfer Capacitance		--	165	--	
SWITCHING CHARACTERISTICS						
$t_{d(ON)}$	Turn-on Delay Time	$V_{DD}=40V, V_{GS}=10V, I_{DS}=2A, R_G=3\Omega, R_L=2\Omega$	--	12	--	ns
$t_{d(OFF)}$	Turn-off Delay Time		--	20	--	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
I_s	Drain-Source Diode Forward Current	$V_g=V_d=0V, \text{Force Current}$	--	--	15	A
$V_{sd a}$	Diode Forward Voltage	$I_s = 15A, V_{GS} = 0V$	--	--	1.2	V
T_{rr}	Reverse Recovery Time	$T_J = 25^{\circ}\text{C}, I_F = 10A, di/dt = 100A/\mu s$	--	21	--	nS

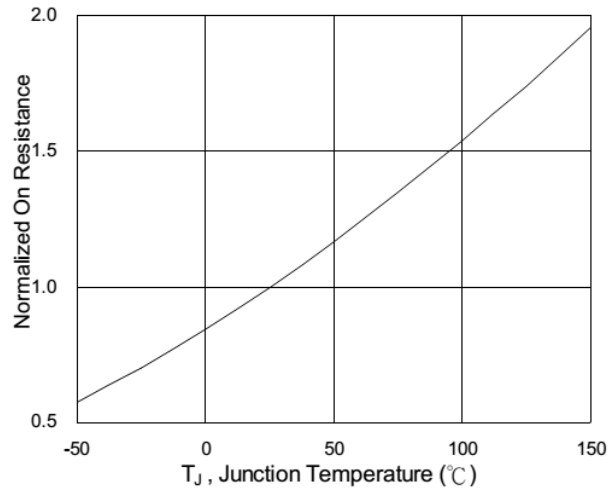
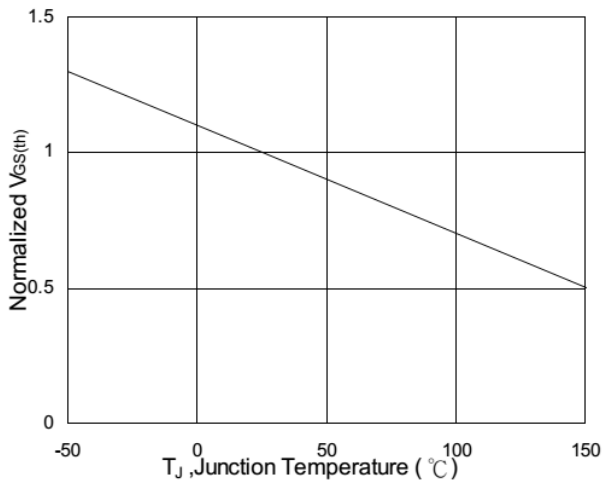
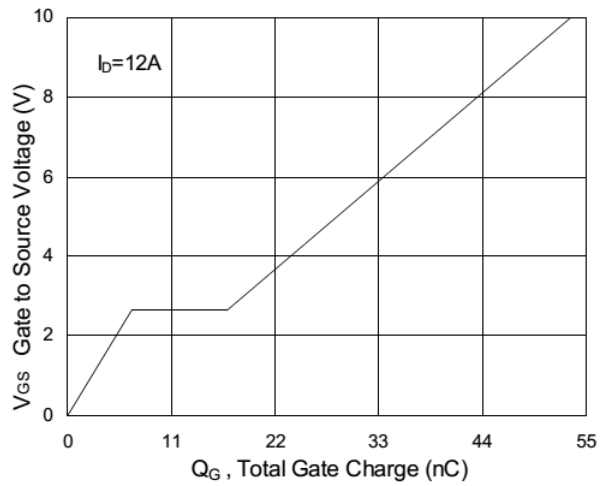
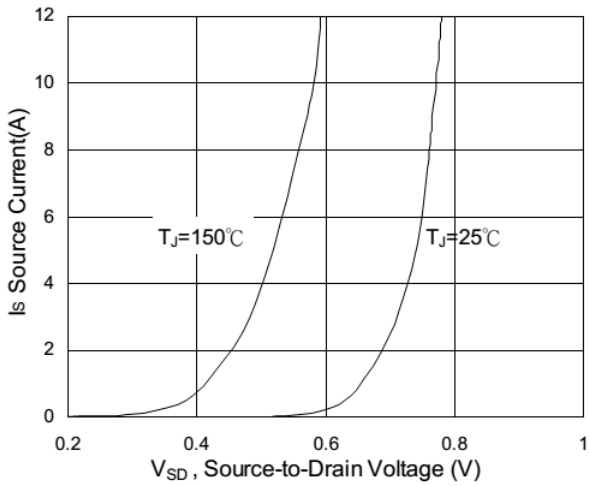
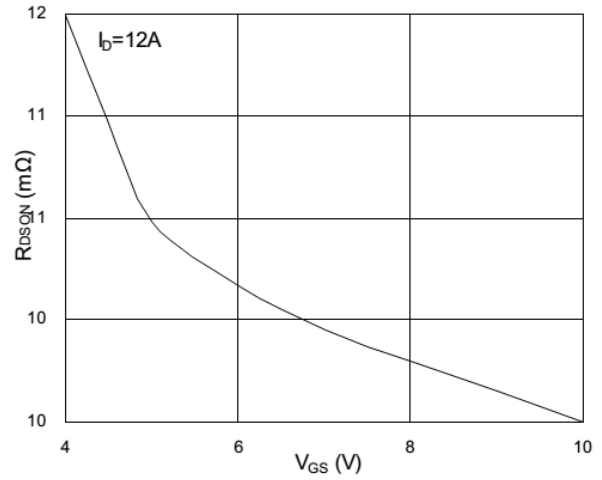
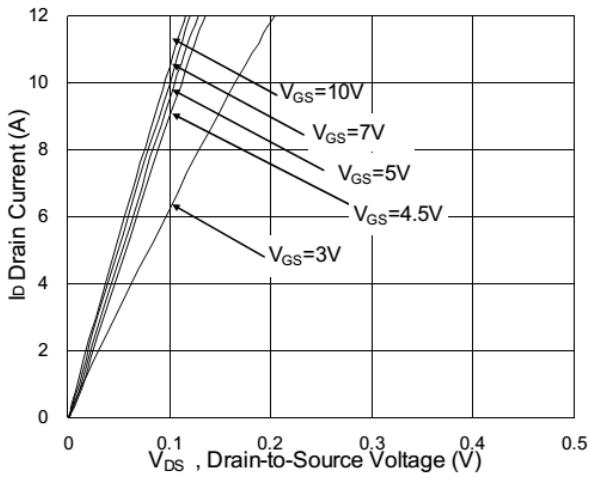
Notes:

- a. Pulse test; pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- b. Guaranteed by design, not subject to production testing.
- c. EAS condition: $T_J=25^{\circ}\text{C}, V_{DD} = 40V, V_G = 10V, L=0.5mH, R_g=25\Omega$

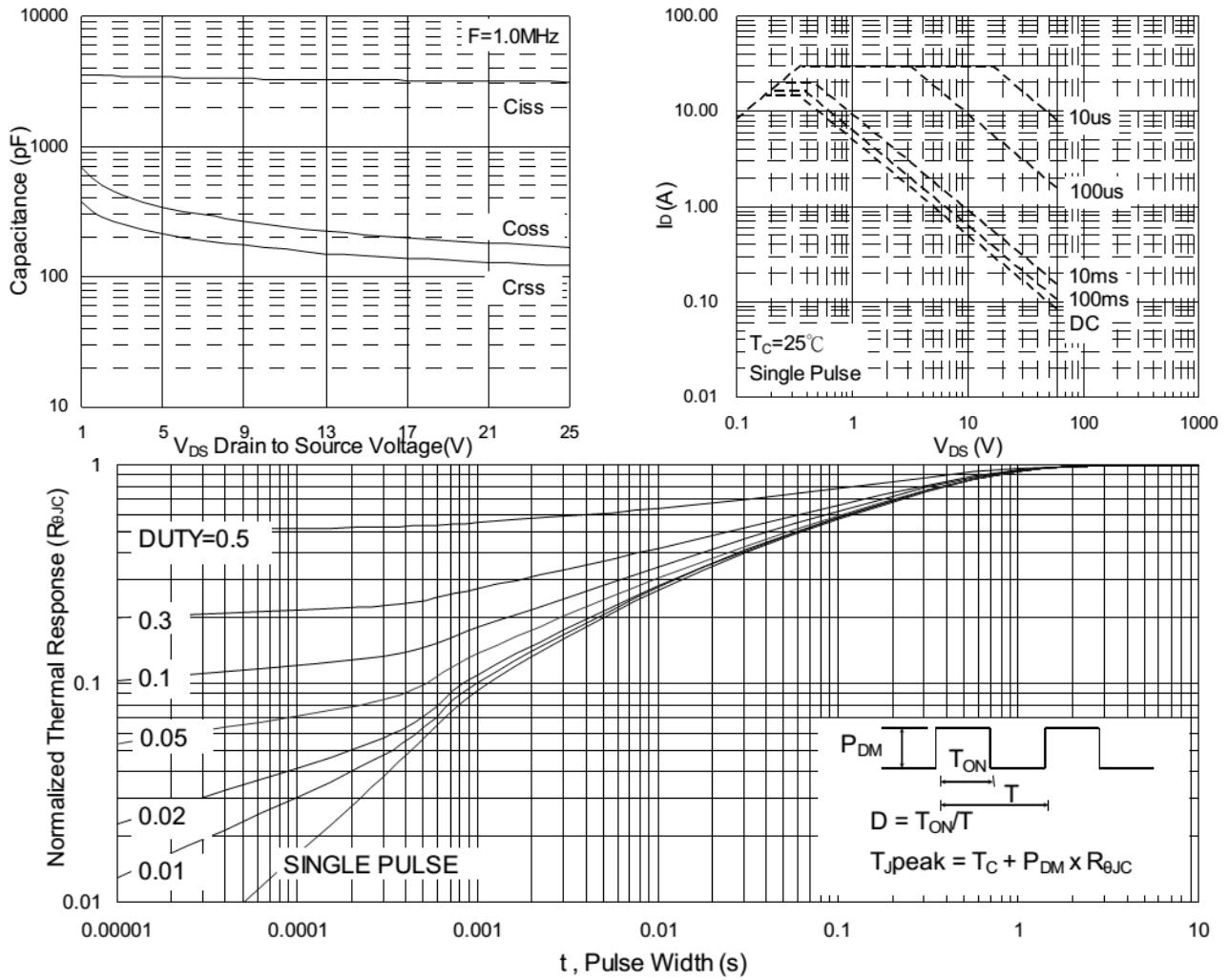
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● **TYPICAL CHARACTERISTICS (TA=25°C Unless otherwise noted)**



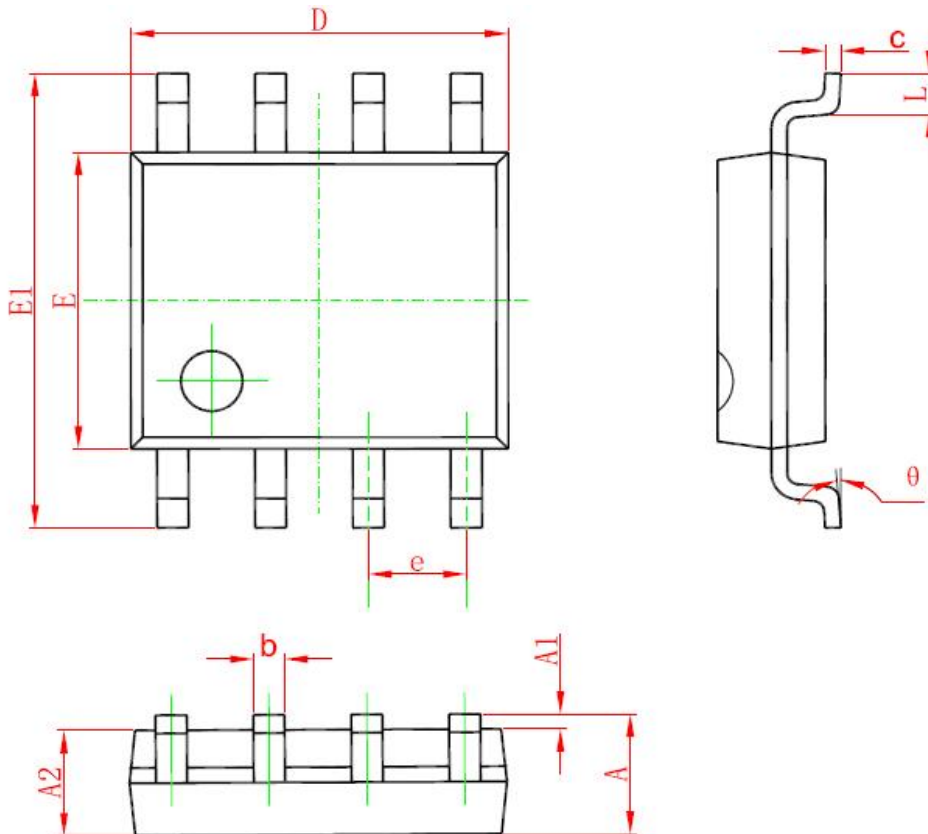
● **TYPICAL CHARACTERISTICS (TA=25°C Unless otherwise noted)**



● ORDERING INFORMATION

Part Number	Package code	Shipping
VIC1281DQ	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\(微科\)](#)