

## P-Channel Enhancement Mode MOSFET

### ● DESCRIPTION

The VIC1137 is the P-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.

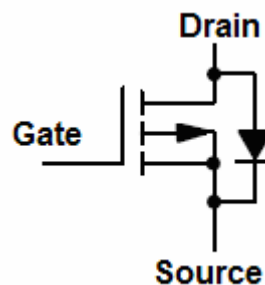
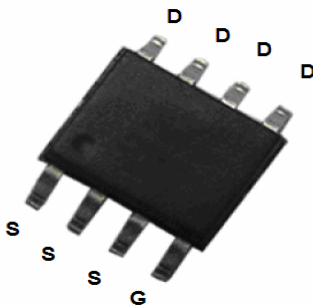
### ● FEATURE

- ◆  $V_{DS} = -30V$ ;  $V_{GS} = \pm 25V$ ;  $I_D = -9.7A$
- ◆  $R_{DS(ON)} = 15m\Omega$  (TYP.) @  $V_{GS} = -10V$
- ◆  $R_{DS(ON)} = 25m\Omega$  (TYP.) @  $V_{GS} = -4.5V$

### ● 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	±25		
ID	Continuous Drain Current	VGS=-10V	-10	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



# VIC1137DQ

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

Symbol	Parameter	Test Conditions	VIC1137DQ			Unit
			Min.	Typ.	Max.	
<b>Static Characteristics</b>						
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V, I <sub>D</sub> =-250μA	-30	--	--	V
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =-20V, V <sub>GS</sub> =0V	--	--	-1	μA
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =-250μA	-1.2	-1.5	-2.5	V
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> =±25V, V <sub>DS</sub> =0V	--	--	±100	nA
R <sub>DS(ON)</sub> a	Drain-Source On-state Resistance	V <sub>GS</sub> =-10V, I <sub>D</sub> =-10A	--	12	15	mΩ
		V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-6A	--	20	25	
g <sub>fs</sub>	Forward Transconductance a	V <sub>ds</sub> =-5V, I <sub>d</sub> =-8A	--	32	--	S
<b>Dynamic b</b>						
Q <sub>g</sub>	Total Gate Charge	V <sub>GS</sub> =-4.5V, V <sub>DS</sub> =-15V, I <sub>d</sub> =-6A	--	21.8	30.6	nC
Q <sub>gs</sub>	Gate-Source Charge		--	7.9	11	
Q <sub>gd</sub>	Gate-Drain Charge		--	6.5	9	
C <sub>iss</sub>	Input Capacitance	V <sub>GS</sub> =0V, V <sub>DS</sub> =-15V, f=1MHz	--	2115	3015	pF
C <sub>oss</sub>	Output Capacitance		--	320	434	pF
C <sub>rss</sub>	Reverse Transfer Capacitance		--	239	335	pF
<b>SWITCHING CHARACTERISTICS</b>						
t <sub>d(ON)</sub>	Turn-on Delay Time	V <sub>DD</sub> =-15V, I <sub>DS</sub> =-8A, V <sub>GEN</sub> =-10V, R <sub>G</sub> =3.3Ω	--	10	20	ns
t <sub>d(OFF)</sub>	Turn-off Delay Time		--	86	172	
<b>DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS</b>						
I <sub>s</sub>	Drain-Source Diode Forward Current	--	--	--	-8.2	A
V <sub>sd</sub> a	Diode Forward Voltage	I <sub>s</sub> = -1A, V <sub>GS</sub> = 0V	--	-0.8	-1	V

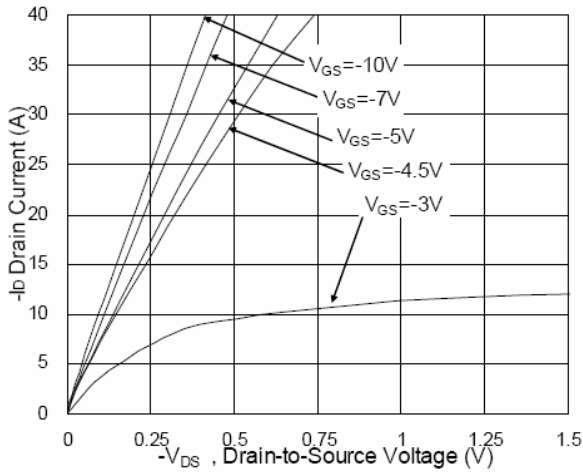
### Notes:

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

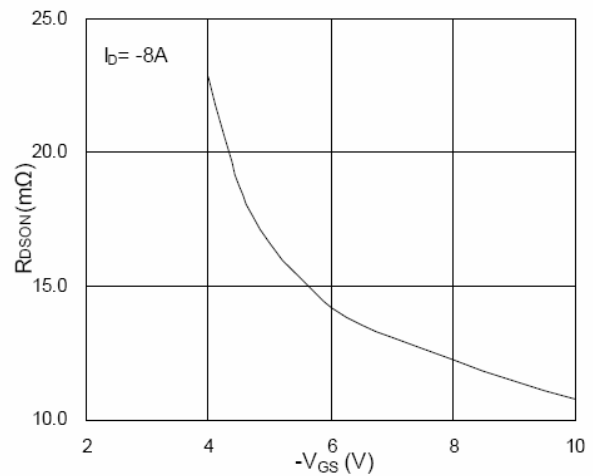
The products and product specifications contained herein are subject to change without notice to improve performance characteristics. consult us, or our representatives before use, to confirm that the information in this datasheet is up to date.

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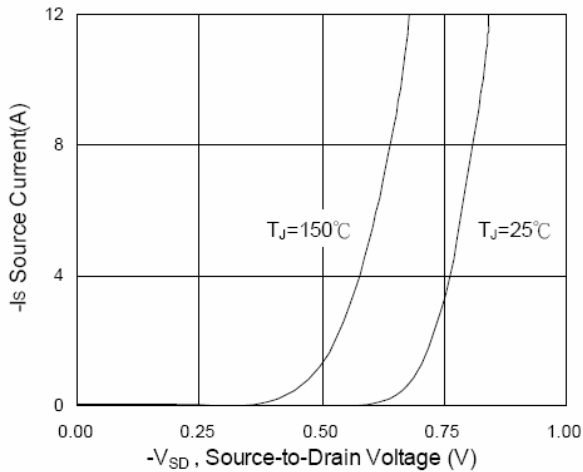
● **TYPICAL CHARACTERISTICS (TA=25°C Unless otherwise noted)**



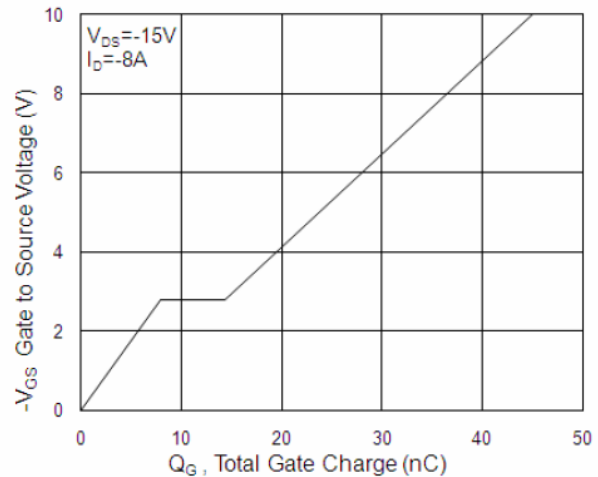
**Fig.1 Typical Output Characteristics**



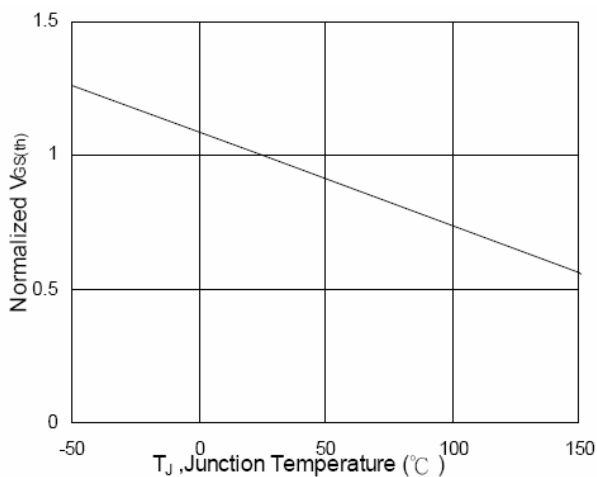
**Fig.2 On-Resistance vs. G-S Voltage**



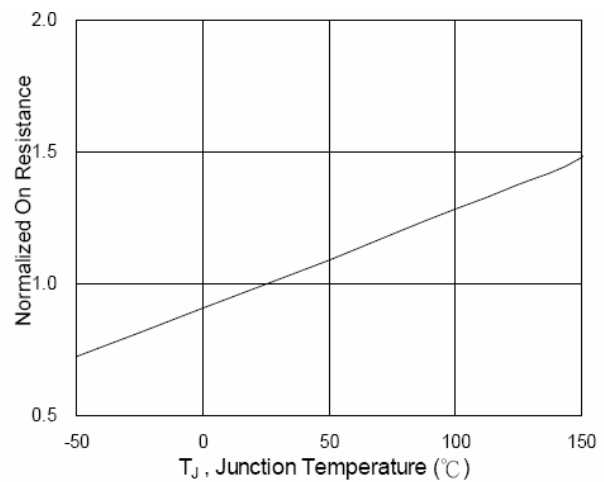
**Fig.3 Forward Characteristics of Reverse**



**Fig.4 Gate-Charge Characteristics**

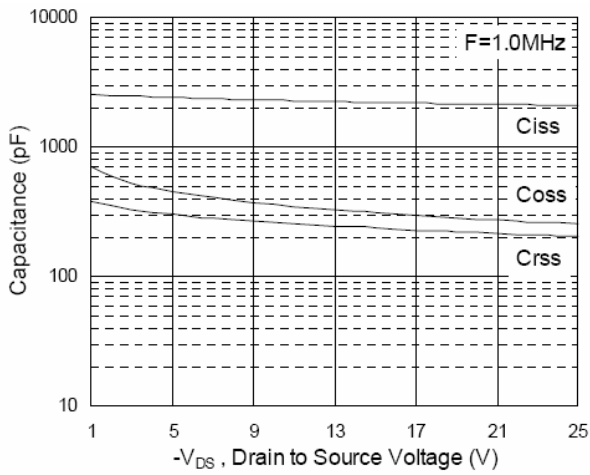


**Fig.5 Normalized Vgs(th) vs. Tj**

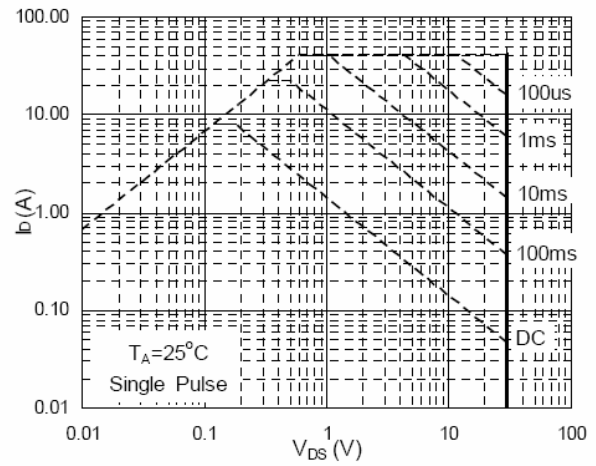


**Fig.6 Normalized Rds(on) vs. Tj**

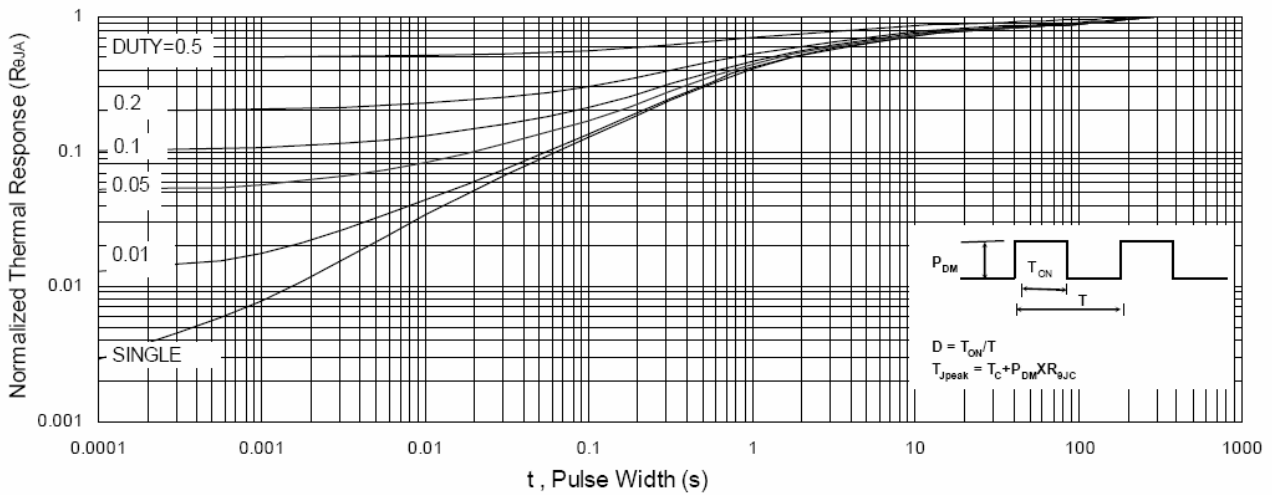
● **TYPICAL CHARACTERISTICS (TA=25°C Unless otherwise noted)**



**Fig.7 Capacitance**



**Fig.8 Safe Operating Area**

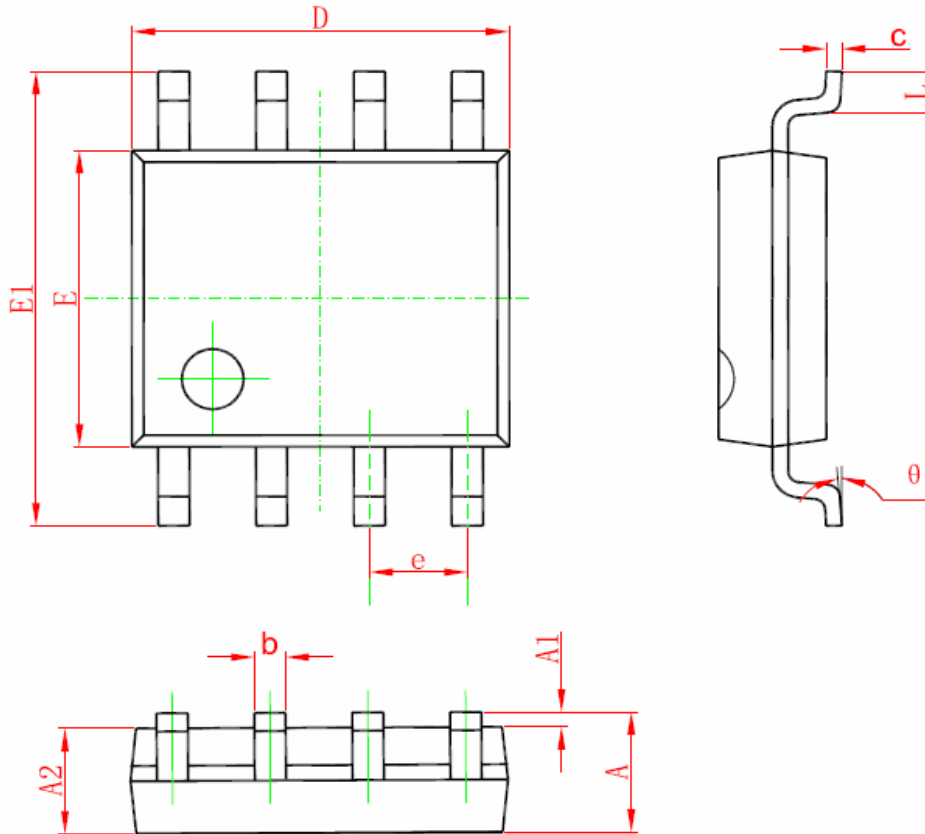


**Fig.9 Normalized Maximum Transient Thermal Impedance**

## ● ORDERING INFORMATION

Part Number	Package code	Shipping
VIC1137DQ	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\(微科\)](#)