

4A,650V N-CHANNEL POWER MOSFET

● DESCRIPTION

The VIC4N65ADE is the highest performance N-Channel POWER MOSFET with extreme high cell density. This latest technology has been especially designed to minimize on-state resistance, have a high rugged avalanche characteristics . These devices are well suited for high efficiency switch mode power supplies , active power factor correction, electronic lamp ballasts based on half bridge topology.

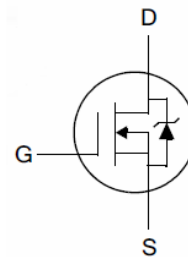
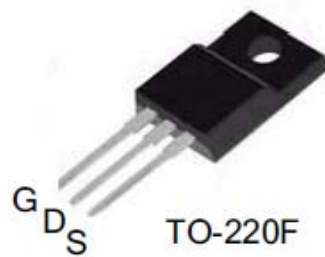
● FEATURE

- ◆ $V_{DS}=650V; V_{GS}=\pm 30V; I_D=4A$
- ◆ $R_{DS(ON)}=2.1 \Omega$ (TYP.)@ $V_{GS}=10V$

● APPLICATIONS

- ◆ Adaptor
- ◆ LED Driver
- ◆ Open Framed Power Supply

● PIN CONFIGURATION



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

Symbol	Parameter	Rating		Unit
V _{DS}	Drain-Source Voltage	650		V
V _{GS}	Gate-Source Voltage	±30		
I _D	Continuous Drain Current	V _{GS} =10V	4	A
I _{DP}	Drain Current (Pulse)	12		A
T _J	Maximum Junction Temperature	-55 to 150		°C
T _{STG}	Storage Temperature Range	-55 to 150		
P _D	Maximum Power Dissipation (T _a =25°C)	35		W

● Thermal Characteristics

Symbol	Parameter	Value			Unit
		MIN.	Typ.	Max.	
R _{θJC}	Thermal Resistance, Junction-to-Case	---	---	3.5	°C/W
R _{θJA}	Thermal Resistance, Junction-to-Ambient	---	---	65	°C/W



VIC4N65ADE

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

Symbol	Parameter	Test Conditions	VIC4N65ADE			Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	650	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =650V, V _{GS} =0V	--	--	1	μA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	2	--	4	V
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±30V, V _{DS} =0V	--	--	100	nA
R _{DS(ON)}	Drain-Source On-state Resistance	V _{GS} =10V, I _D =2A	--	2.1	2.5	Ω
g _{fs}	Forward Transconductance	V _{ds} =15V, I _d =3A	--	6.5	--	S
Dynamic b						
Q _g	Total Gate Charge(10V)	V _{GS} =10V, V _{DS} =480V, I _d =4.0A	--	18	24	nC
Q _{gs}	Gate-Source Charge		--	3.3	--	
Q _{gd}	Gate-Drain Charge		--	8.6	--	
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =25V, f=1MHz	--	600	710	pF
C _{oss}	Output Capacitance		--	70	85	
C _{rss}	Reverse Transfer Capacitance		--	12	18	
SWITCHING CHARACTERISTICS						
t _{d(ON)}	Turn-on Delay Time	V _{DD} =300V, V _{GS} =10V, I _{DS} =4A, R _G =25Ω	--	10	30	ns
t _{d(OFF)}	Turn-off Delay Time		--	20	50	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
I _s	Drain-Source Diode Forward Current	V _g =V _d =0V, Force Current	--	--	4	A
V _{sd}	Diode Forward Voltage	I _s =4A, V _{GS} =0V	--	--	1.4	V

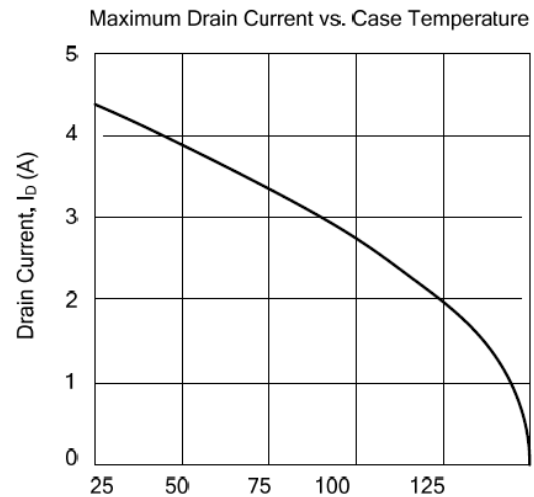
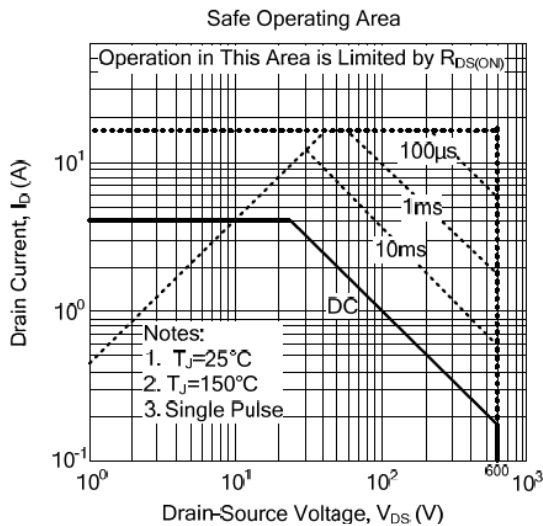
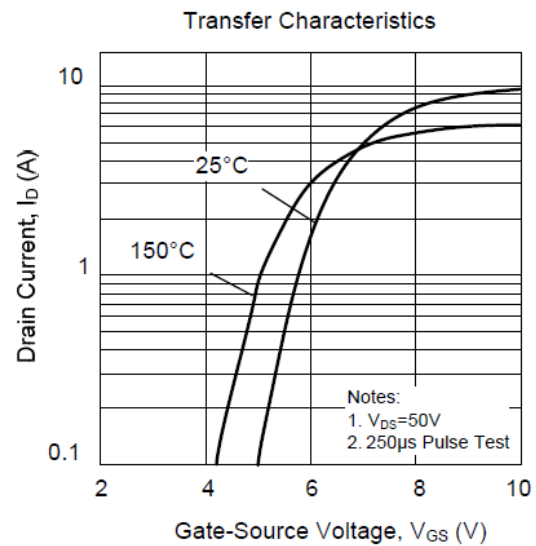
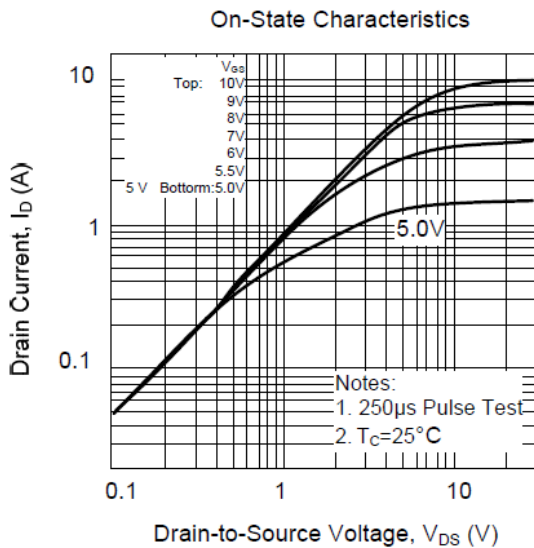
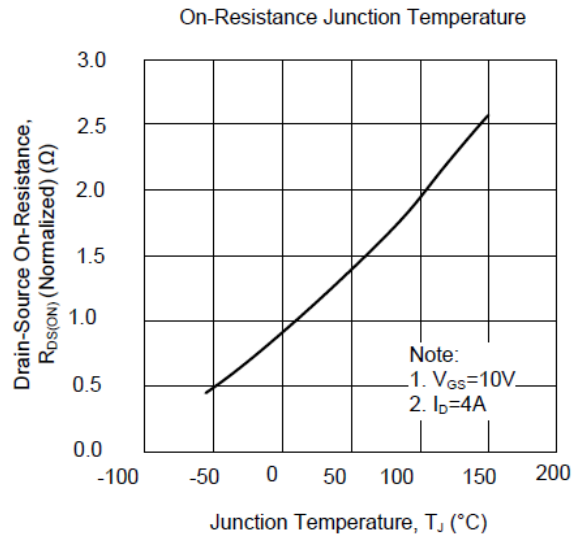
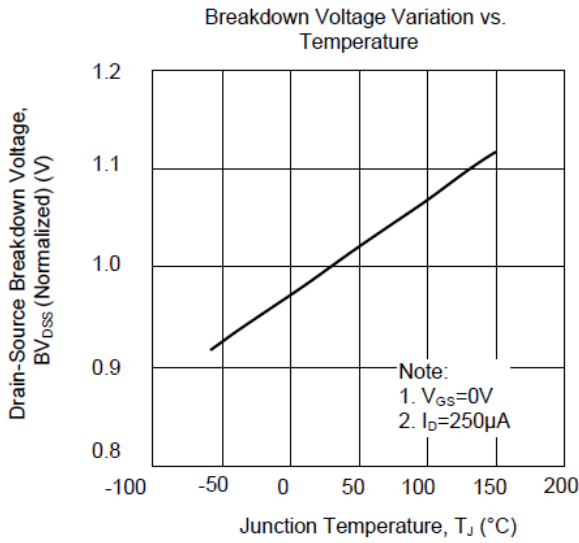
Notes:

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

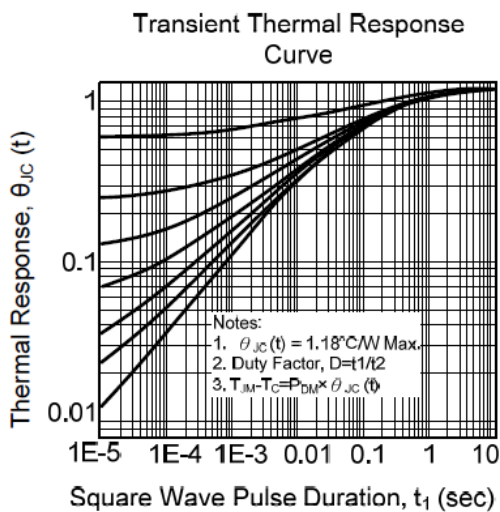
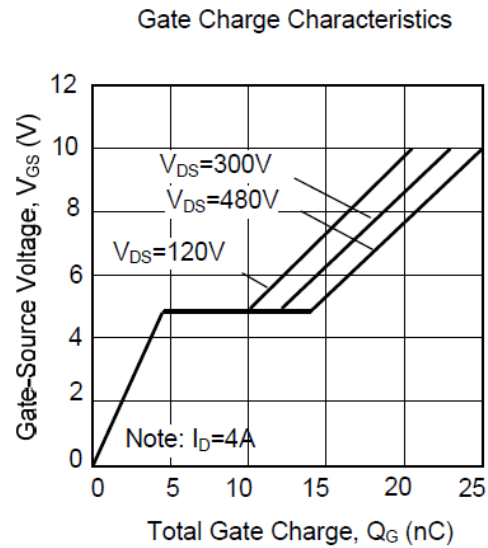
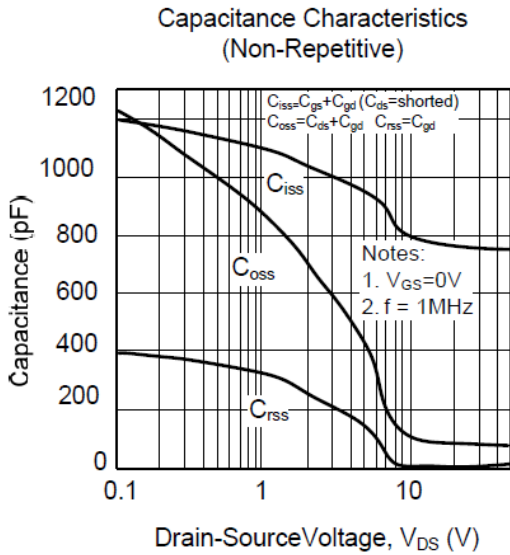
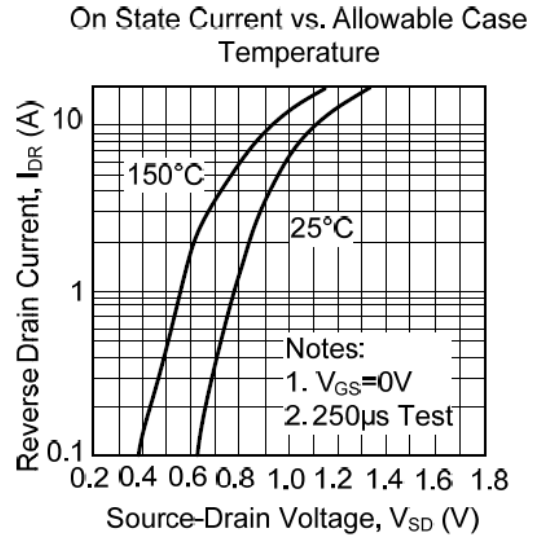
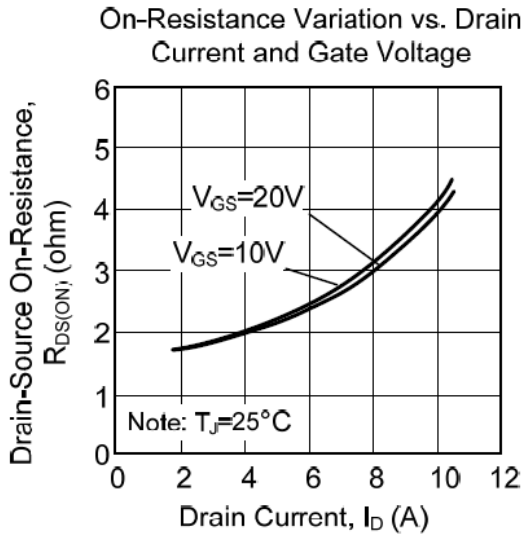
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● **TYPICAL CHARACTERISTICS (TA=25°C Unless otherwise noted)**



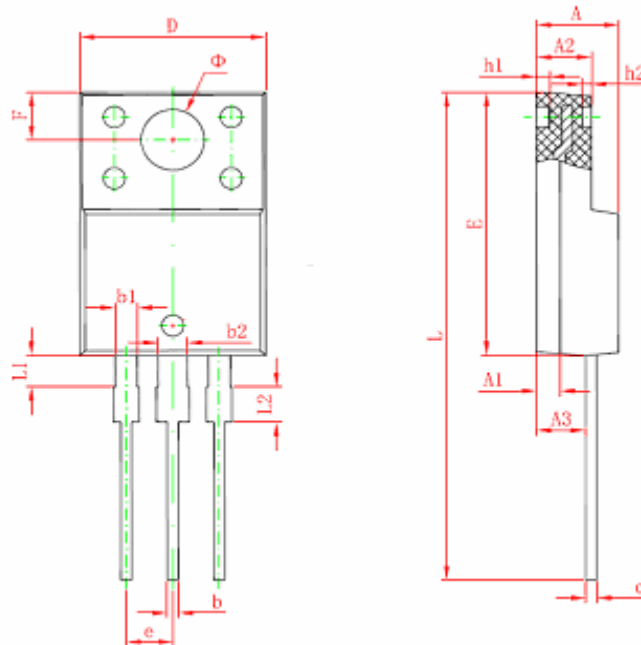
● **TYPICAL CHARACTERISTICS (TA=25°C Unless otherwise noted)**



● ORDERING INFORMATION

Part Number	Package code	Shipping
VIC4N65ADE	DN: TO220F	

● PACKAGE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.300	4.700	0.169	0.185
A1	1.300 REF.		0.051 REF.	
A2	2.800	3.200	0.110	0.126
A3	2.500	2.900	0.098	0.114
b	0.500	0.750	0.020	0.030
b1	1.100	1.350	0.043	0.053
b2	1.500	1.750	0.059	0.069
c	0.500	0.750	0.020	0.030
D	9.960	10.360	0.392	0.408
E	14.800	15.200	0.583	0.598
e	2.540 TYP.		0.100 TYP.	
F	2.700 REF.		0.106 REF.	
Φ	3.500 REF.		0.138 REF.	
h	0.000	0.300	0.000	0.012
h1	0.800 REF.		0.031 REF.	
h2	0.500 REF.		0.020 REF.	
L	28.000	28.400	1.102	1.118
L1	1.700	1.900	0.067	0.075
L2	1.900	2.100	0.075	0.083

单击下面可查看定价，库存，交付和生命周期等信息

[>>VIC\(微科\)](#)