

/ Descriptions

PDFN5×6 N
N-Channel MOSFET in a PDFN5×6 Plastic Package .

/ Features

AEC-Q101

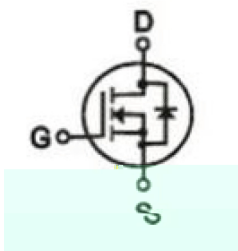
Low $R_{DS(ON)}$ to minimize conductive loss, low Gate Charge for fast switching, Low Thermal resistance, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

/ Applications

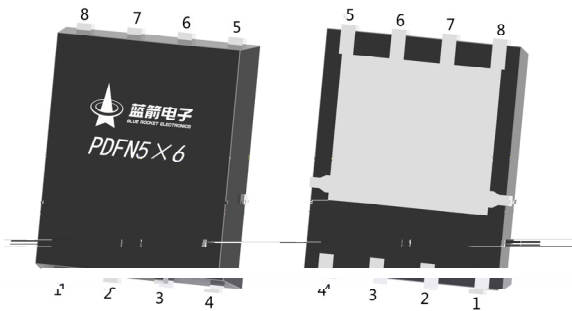
MB/NB/UMPC/VGA Buck -

Battery Management, High Frequency Point-of-Load Synchronous Buck Converter for MB/NB/UMPC/VGA, Networking DC-DC Power System, Load Switch, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN1、2、3: S PIN4: G PIN5、6、7、8: D

Pin	极性
1	S
2	S
3	S
4	G
5	D
6	D
7	D
8	D

/ Marking

。 See Marking Instructions.

BRCS016N03ZCQ

Rev.A Nov.-2022

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Drain Current - Continuous		I_D	146	A
Drain Current – Pulsed		I_{DM}	300	A
Gate-Source Voltage		V_{GS}	± 20	V
Power Dissipation		$P_D(T_c=25^\circ C)$	57	W
Single Pulse Avalanche Energy(L=0.5mH)		Threshold	315	7.1mJ
Avalanche Current(L=0.5mH)		I_{AS}	30	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - ambient	$t \leq 10s$	$R_{\theta JA}$	20	/ W
	Steady-State		50	
Thermal resistance, junction - case	Steady-State	$R_{\theta JC}$	2.2	

D1in

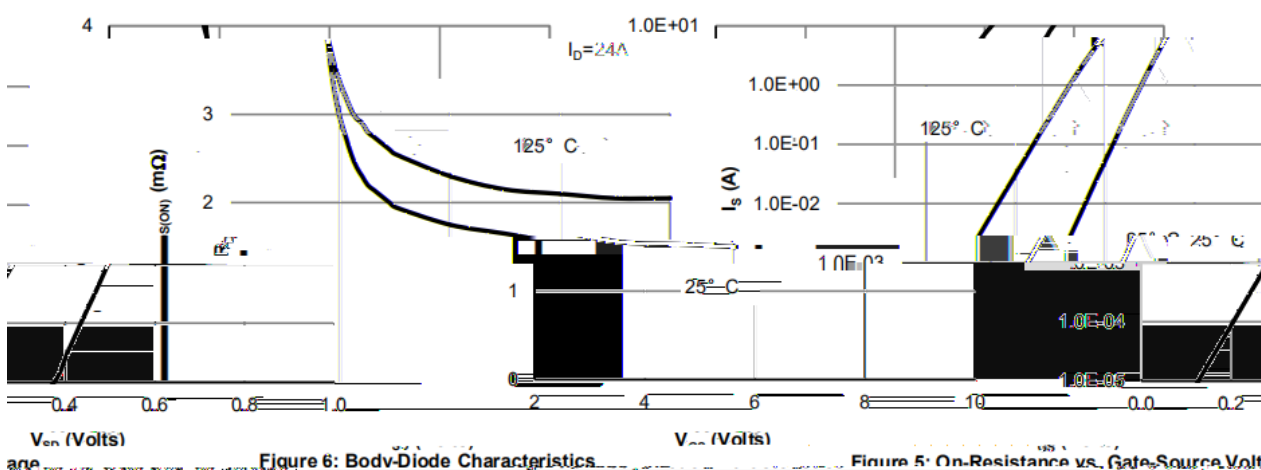
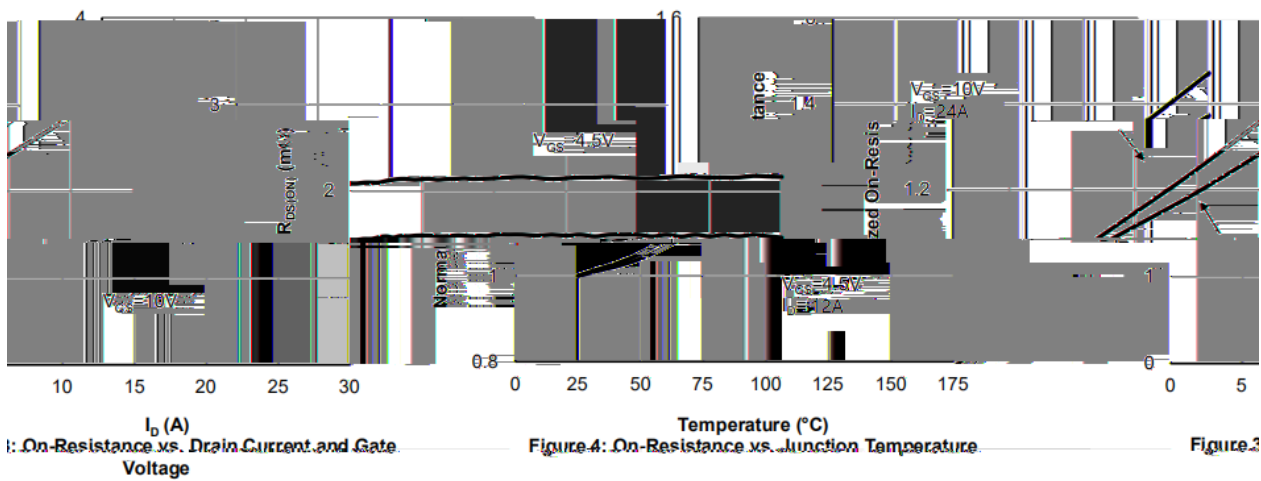
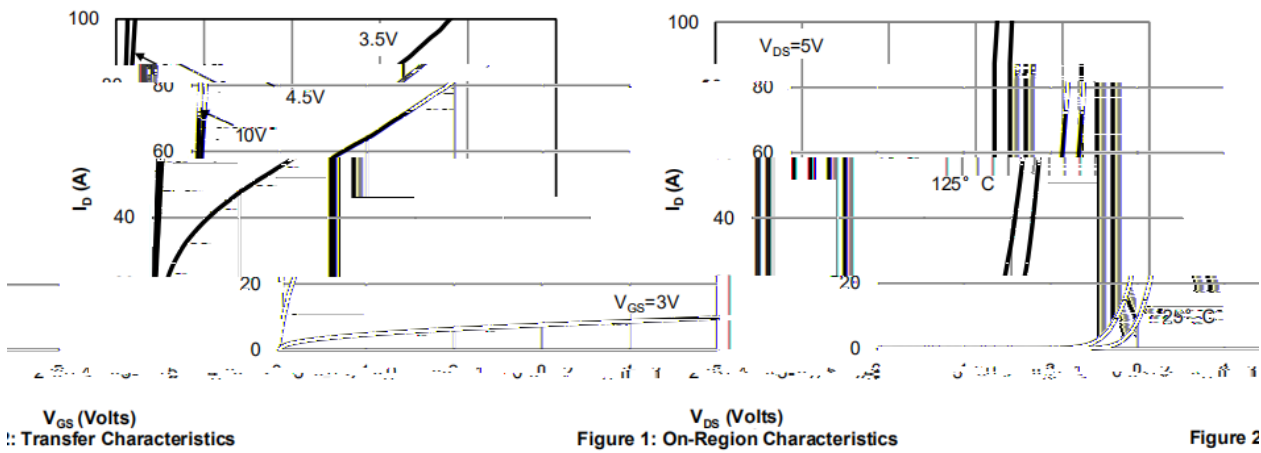
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	30	35		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$			1.0	μA

=0V

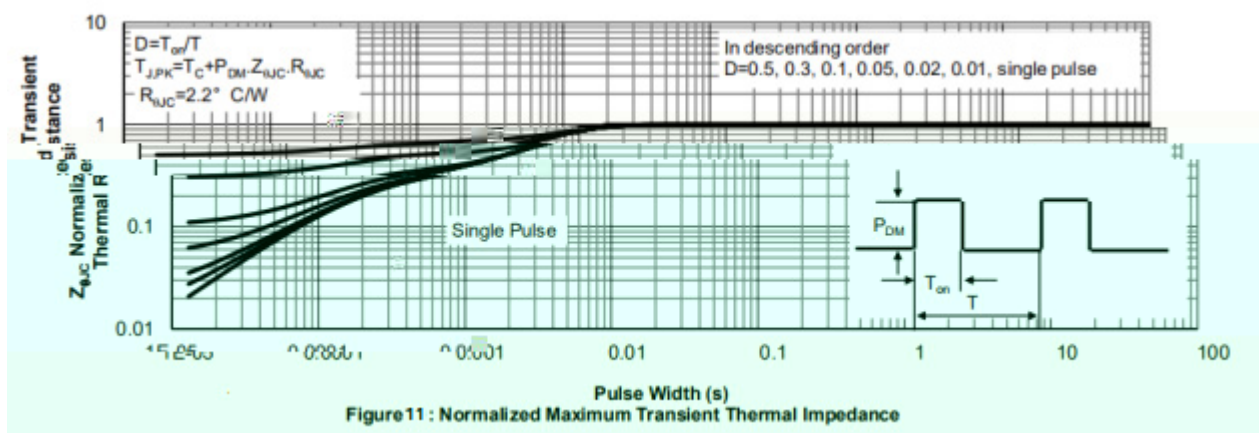
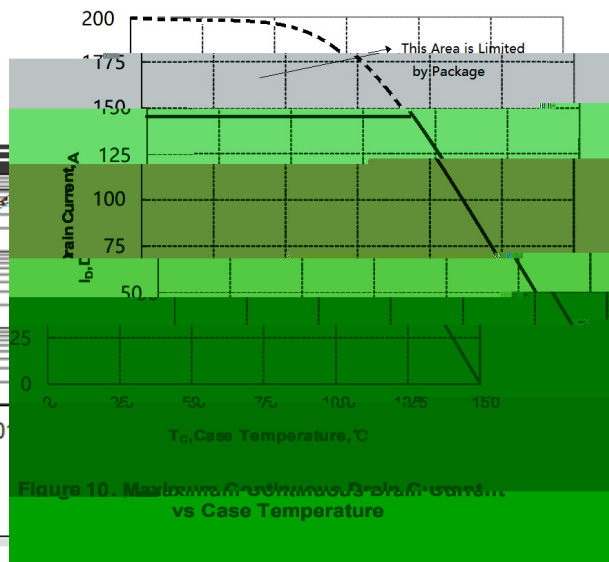
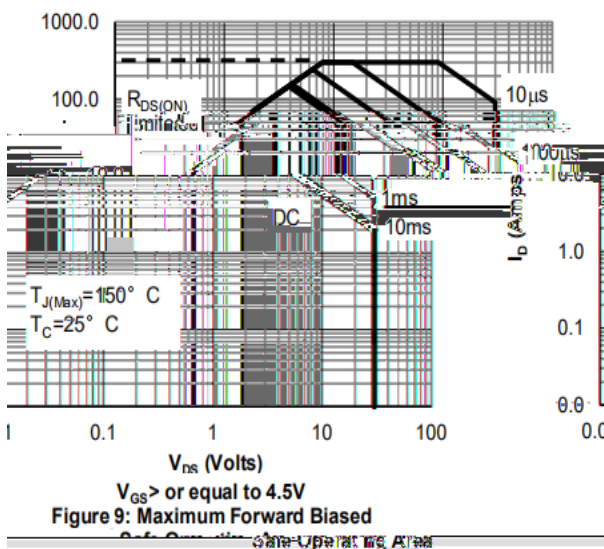
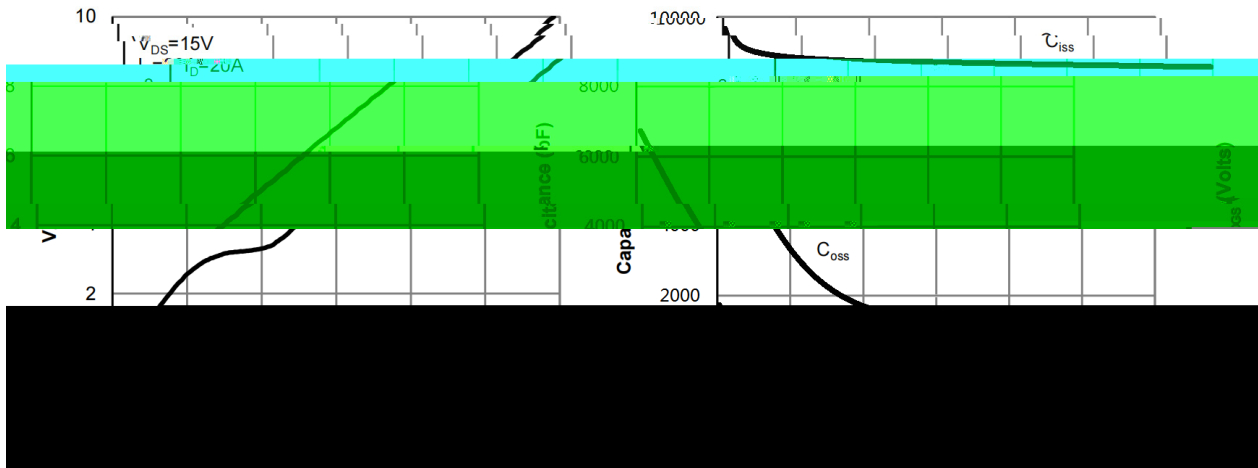
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15V$ $R_L=0.75\Omega$ $R_{GEN}=3\Omega$		12.5		ns
Turn-On Rise Time	t_r			6.0		
Turn-Off Delay Time	$t_{d(off)}$			47		
Turn-Off Fall Time	t_f			10.5		

/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



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/ Marking Instructions



BR

Q

016N03

Note:

BR: Company Code

Q: Automobile halogen-free product Code

016N03: Product Type Code

****: Lot No. Code, code change with Lot No

() / Temperature Profile for IR Reflow Soldering(Pb-Free)

Note:

- 1

150 200

60 120sec;

1.Preheating:150~200 , Time:60~120sec.
- 2

255±5