/ Descriptions

PDFN5×6 Ł N ڎ ٦

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

/ Features

Ң כ گ ں Ң כ ǎ ψ Ң כ U א ھ ψ Ң♬ گψ ۱ AEC-Q101 ڃ ۔ ļ ψ

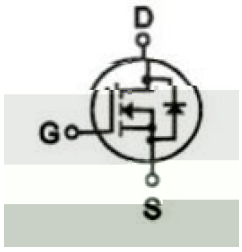
Low $R_{DS(ON)}$ to minimize conductive loss;low Gate Charge for fast switching;Low Thermal resistance; Qualified to AEC-Q101 Standards for High Reliability; HF Product.

/ Applications

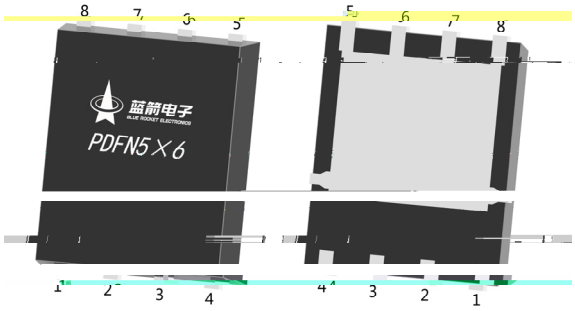
כ ٦ ת MB/NB/UMPC/VGA ڃ إ ق ذ ₽ Buck ĭ ۷´ ╚-´ ╚ כ ۷ ۸ ق U ◗ ′ ج ۴ [OBJ] ļ

Battery Management,High Frequency Point-of-Load Synchronous Buck Conventer 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

/ Marking

ŏ ٧ب See Marking Instructions.

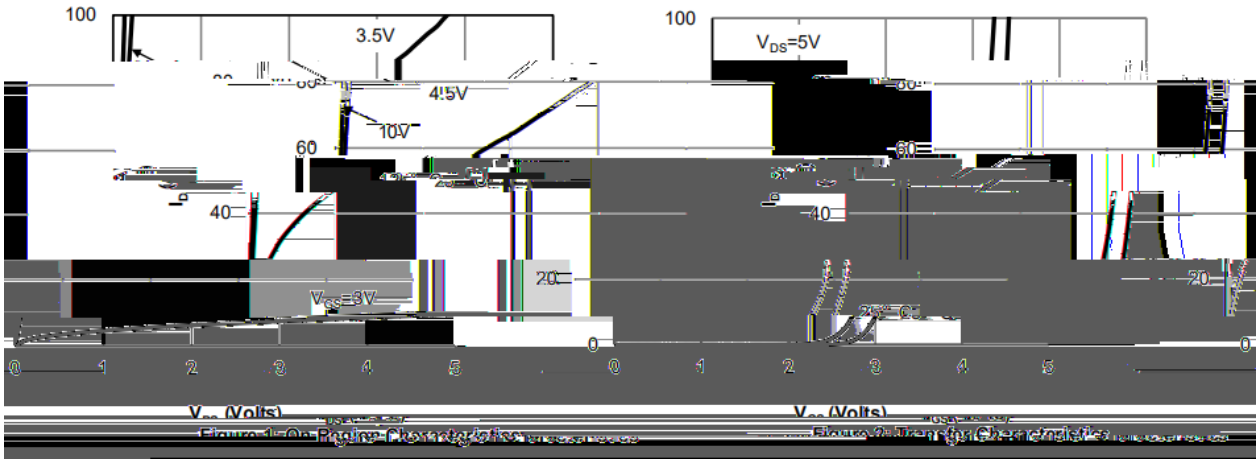
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	40	V
Drain Current - Continuous		I_D	30	A
Drain Current – Pulsed		I_{DM}	110	A
Gate-Source Voltage		V_{GS}	± 20V	V
Power Dissipation		$P_D(T_c=25\ \ )$	36.5	W
Single Pulse Avalanche Energy(L=0.5mH)		E_{AS}	78.5	mJ
Avalanche Current(L=0.5mH)		I_{AS}	15	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - ambient	t ≤ 10s	$R_{\theta JA}$	25	/ W
	Steady-State		55	
Thermal resistance, junction - case	Steady-State	$R_{\theta JC}$	3.4	

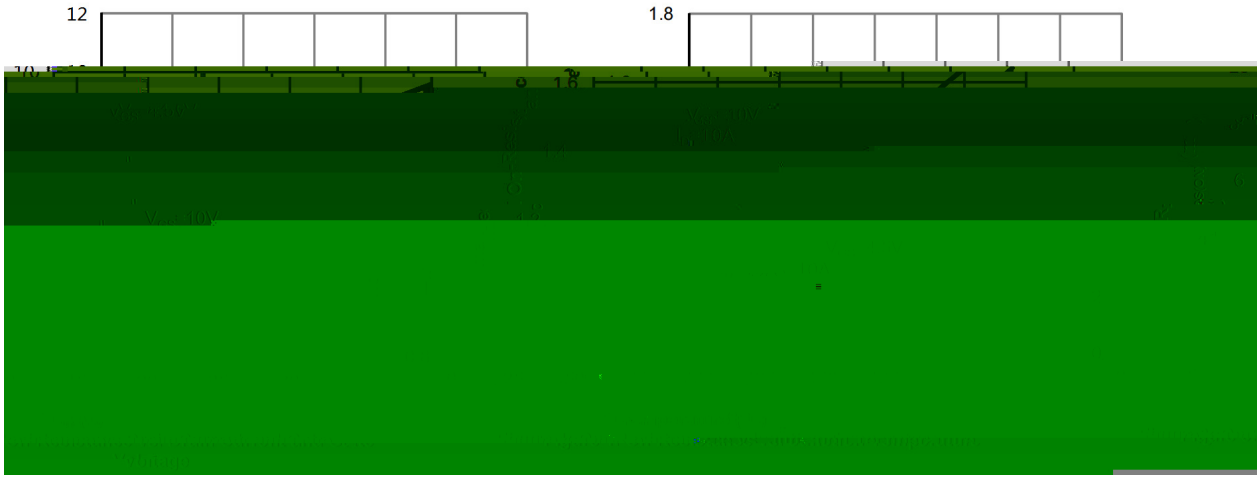
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=250uA, V_{GS}=0V	40	46		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=40V, V_{GS}=0V			1	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	1.0	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=10A		5.6	6	mΩ
		V_{GS}=4.5V, I_D=10A		7.8	9	
Diode Forward Voltage	V_{SD}	I_S=1A, V_{GS}=0V			1.2	V
Input Capacitance	C_{iss}	V_{DS}=25V V_{DS}				

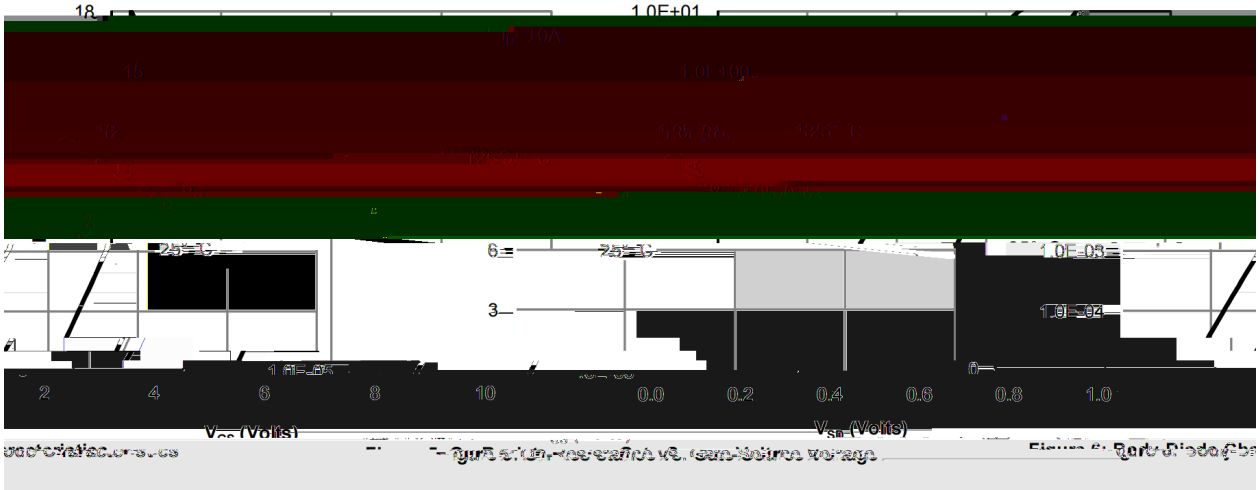
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=20V R_L=1.0Ω R_{GEN}=3Ω		7.5		ns
Turn-On Rise Time	t_r			2		
Turn-Off Delay Time	$t_{d(off)}$			23		
Turn-Off Fall Time	t_f			3		

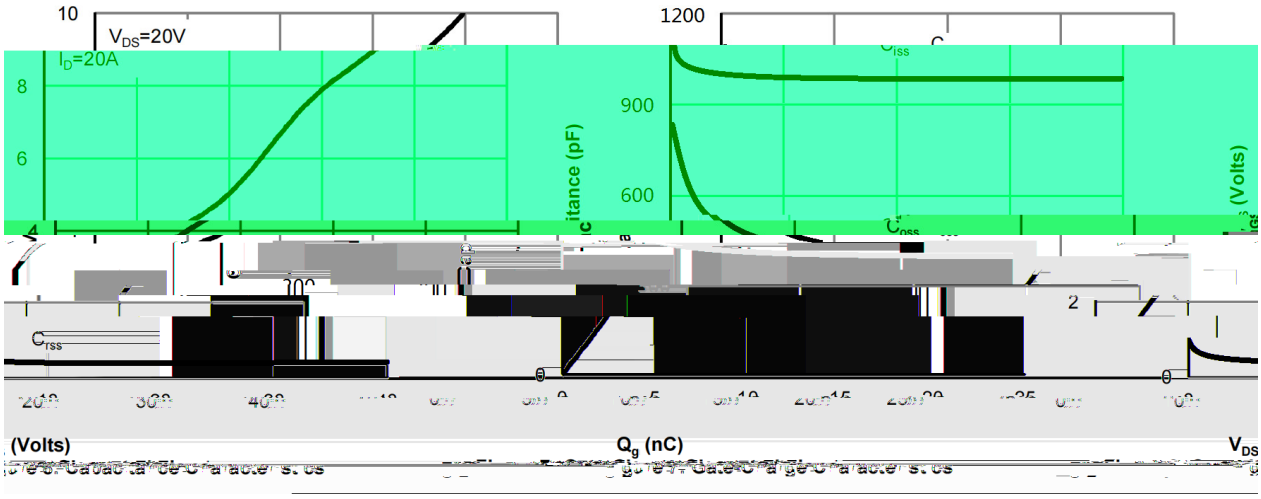
/ Electrical Characteristic Curve

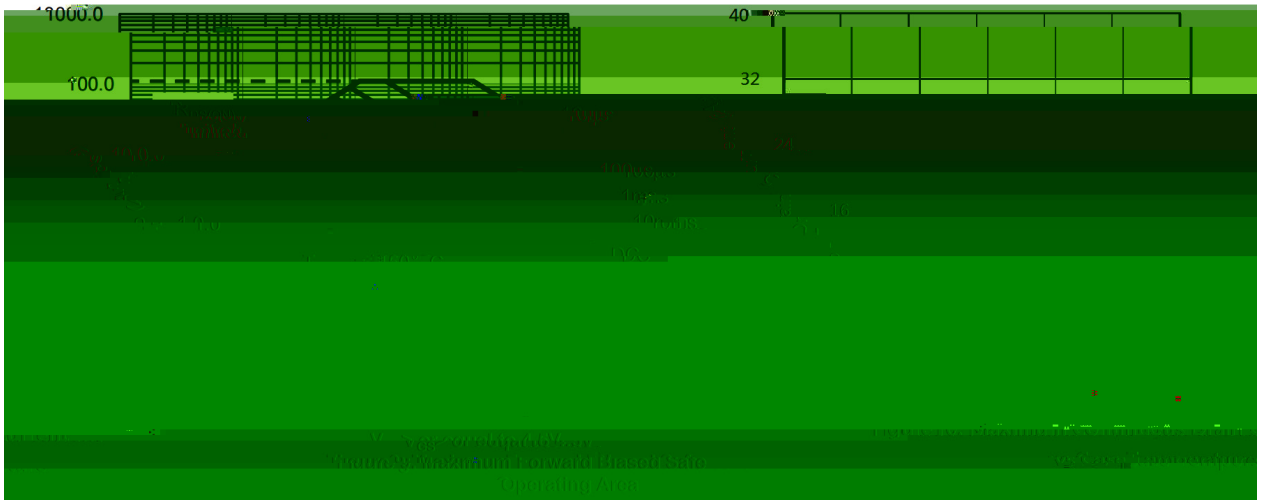


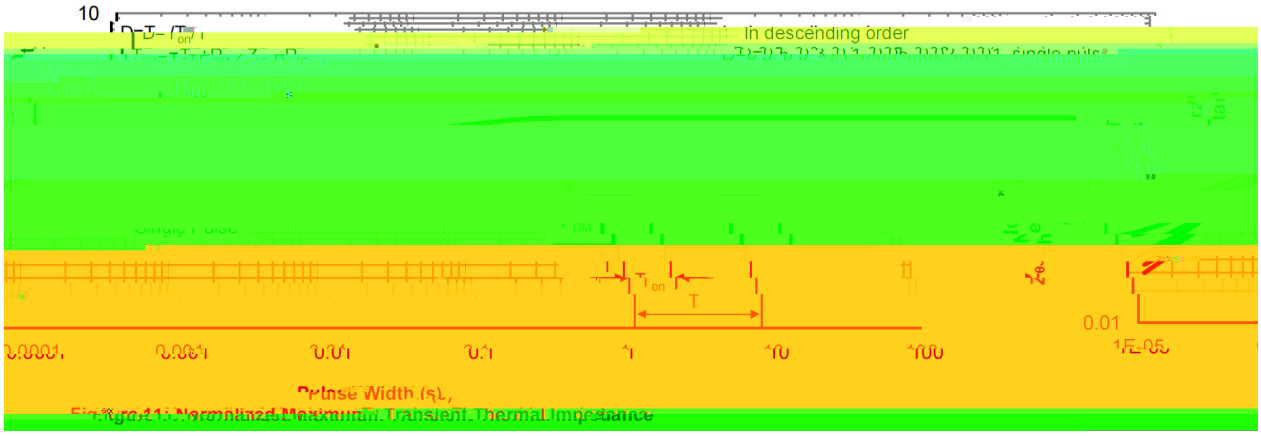




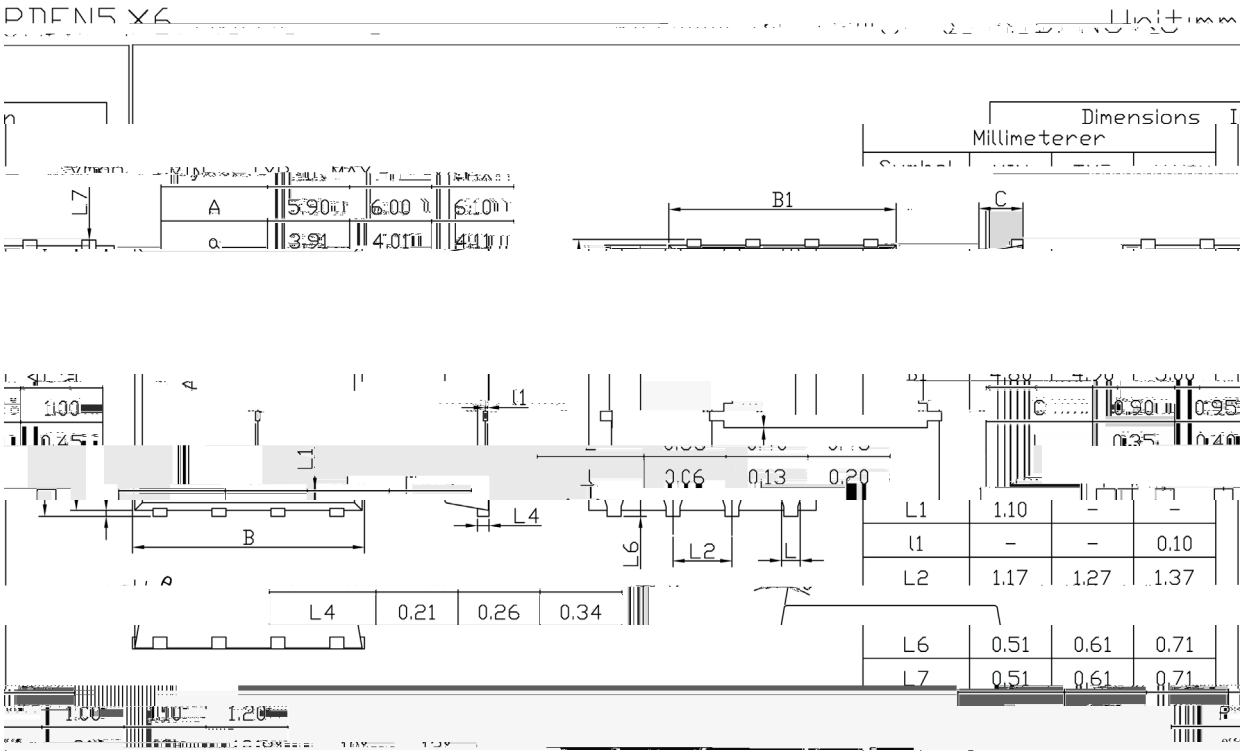
/ Electrical Characteristic Curve







/ Package Dimensions



/ Marking Instructions

BR	Company Code
Q:	Automobile halogen-free product Code
060N04S	Product Type
****:	Lot No. Code, code change with Lot No

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

ب χ

1 أ ♬ □ 150 200 ژ 60 120sec;

2 □ 255±5 ژ ٨ 5±

Note:

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