

## / Descriptions

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

## / Features

$V_{DS}(V)=60\text{ V}$   $I_D=158\text{ A}$

$R_{DS(ON)}@10\text{ V}$  2.0m (Typ.1.8mR)

$R_{DS(ON)}@4.5\text{ V}$  3.0m (Typ.2.5mR)

AEC-Q101

Qualified to AEC-Q101 Standards for High Reliability,

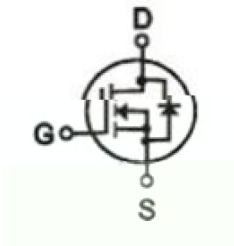
HF Product.

## / Applications

DC-DC

Secondary Side Synchronous Rectification,DC-DC Converter, Motor Control, Load Switching, Meet the stringent requirements of automotive applications.

## / Equivalent Circuit



## / Pinning



PIN1 2 3, S PIN4, G PIN5 6 7 8, D

## / Marking


See Marking Instructions.

# BRCs020N06SZCQ

Rev.B Dec.-2024



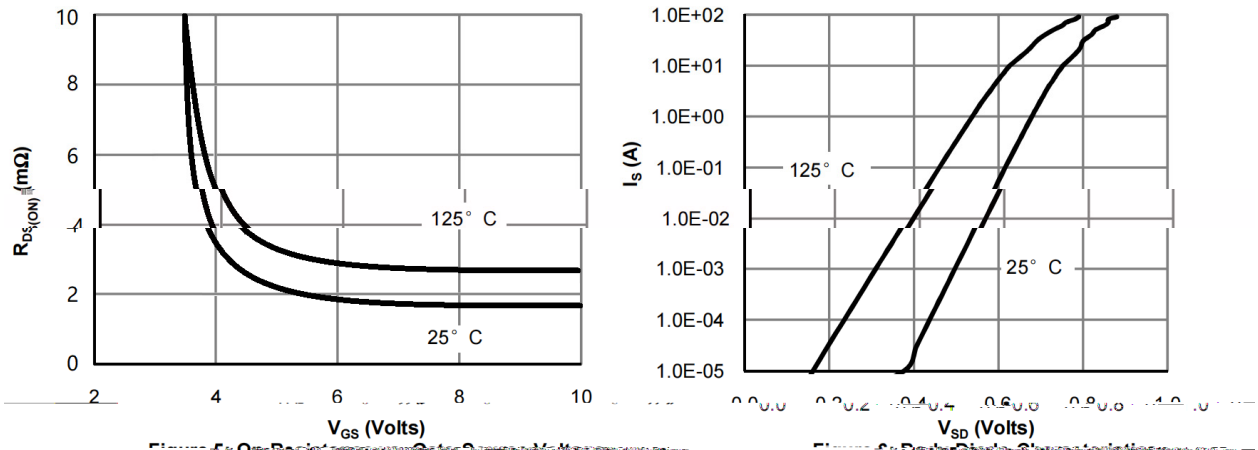
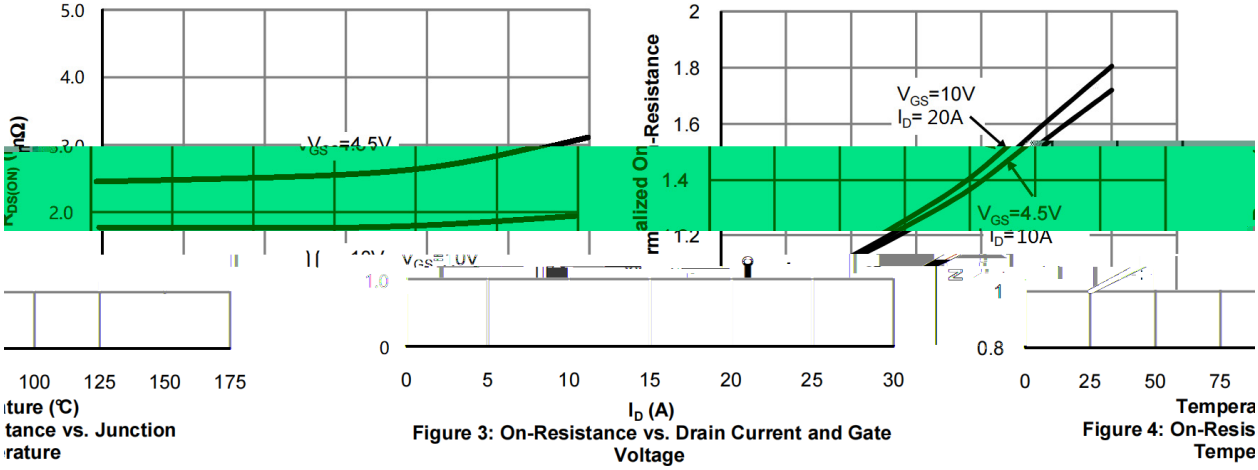
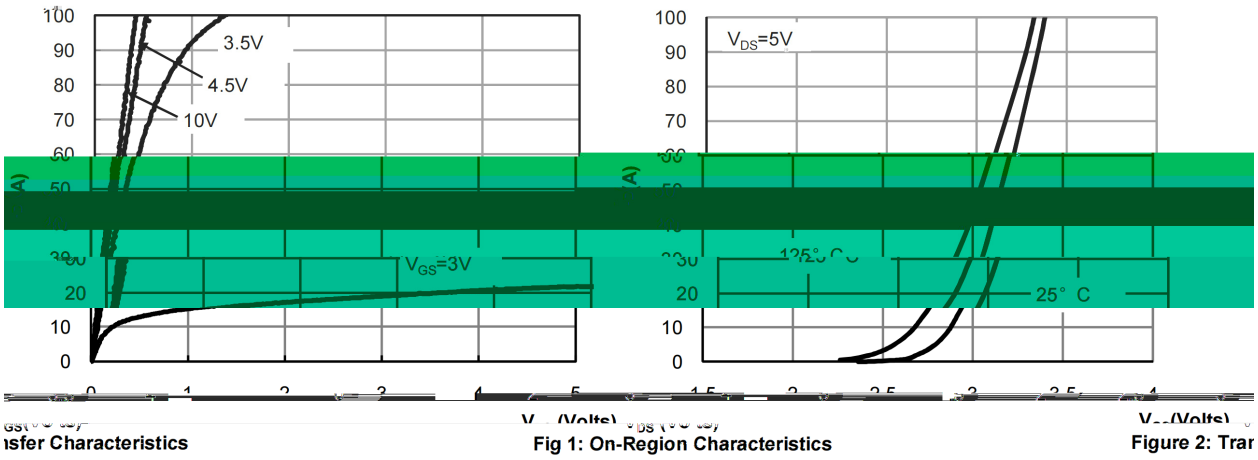
DATA SHEET

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Continuous Drain Current	$I_D(T_C=25^{\circ}C)$	158	A
Pulsed Drain Current	$I_{DM}$	316	A
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Power Dissipation	$P_D(T_C=25^{\circ}C)$	90	W
Avalanche energy(L=0.5mH)	$E_{AS}$	380	mJ
Avalanche Current(L=0.5mH)	$I_{AS}$	30.8	A
Junction and Storage Temperature Range	$T_j, T_{stg}$	-55 to 150	
Maximum Junction-to-Ambient  10s	$R_{\theta JA}$	20	/ W

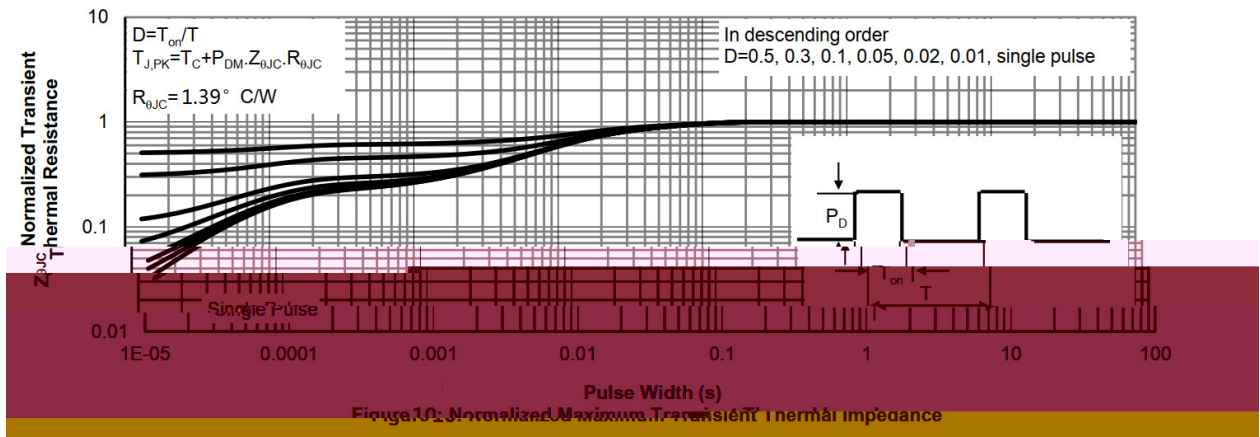
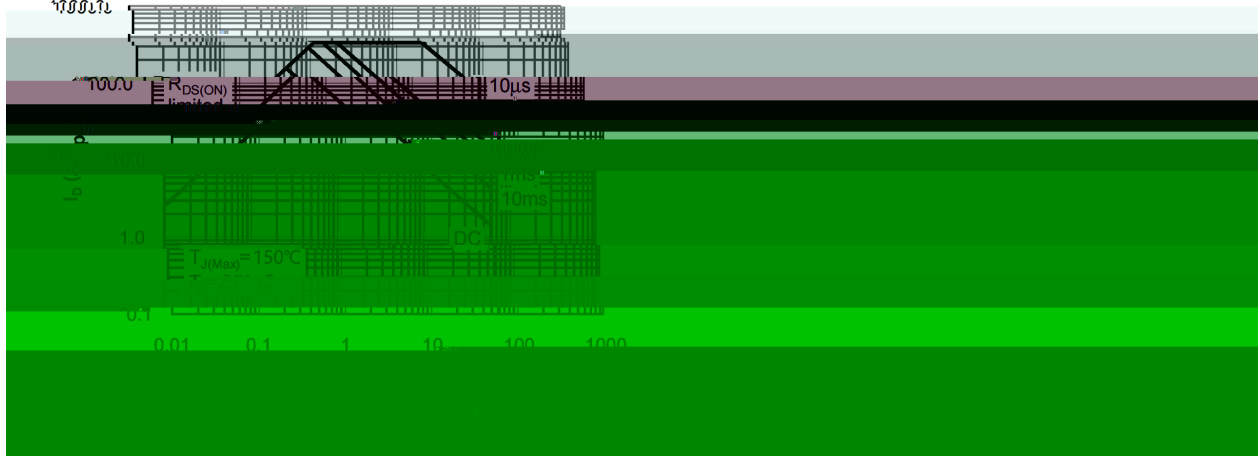
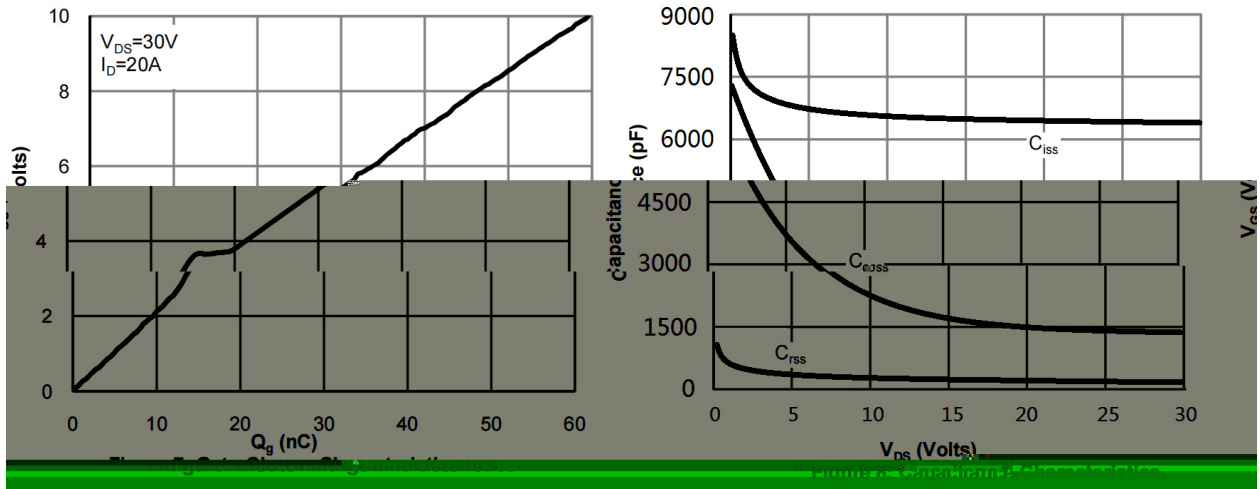
**/ Electrical Characteristics(Ta=25 )**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=20V$ $R_L=1\ \Omega$ $R_{GEN}=3\ \Omega$		13		ns
Turn-On Rise Time	$t_r$			4		
Turn-Off Delay Time	$t_{d(off)}$			47		
Turn-Off Fall Time	$t_f$			6.5		

**/ Electrical Characteristic Curve**



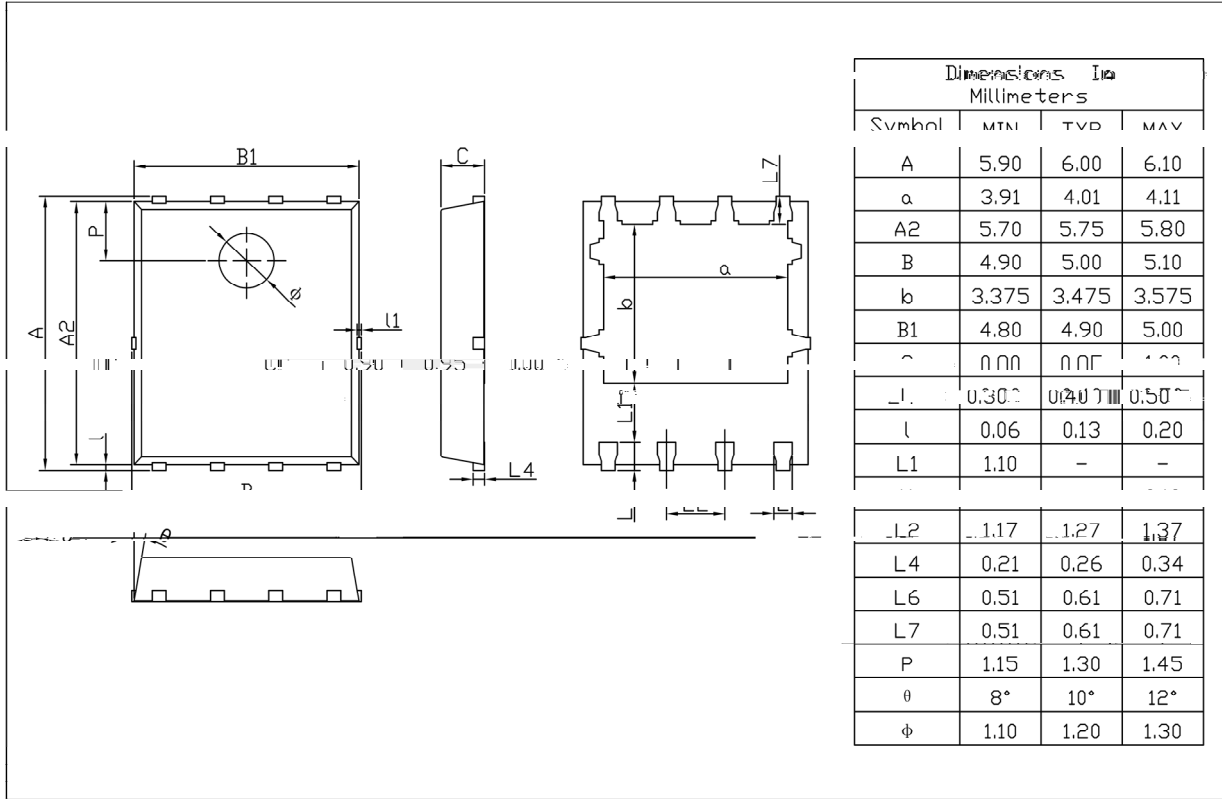
**/ Electrical Characteristic Curve**



**/ Package Dimensions**

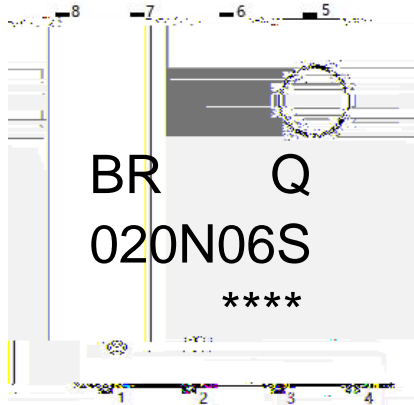
PDFN5 X6

Unit:mm



Rev.01 202209

**/ Marking Instructions**



BR

Q

020N06S

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Note

BR

Company Code

Q:

Automobile halogen-free product Code

020N06S

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                        5±0.5sec;    2.Peak Temp.:255±5 , Duration:5±0.5sec.
- 3                                2 ~ 10 /sec.            3. Cooling Speed: 2~10 /sec.

**/ Resistance to Soldering Heat Test Conditions**

260±5	10±1 sec.	Temp.:260±5	Time:10±1 sec
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