

/ Descriptions

PDFN5×6 N

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

/ Features

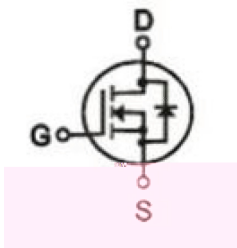
AEC-Q101

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.

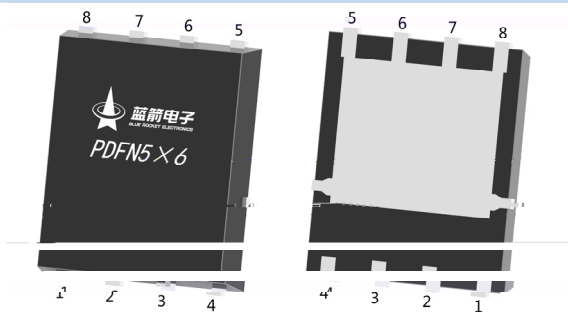
/ Applications

Battery Management, 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.

BRCS015N04SZCQ

Rev.B Feb.-2023

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	40	V
Drain Current - Continuous	I_D	170	A
Drain Current – Pulsed	I_{DM}	340	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation	$P_D(T_c=25^\circ\text{C})$	65	W
Single Pulse Avalanche Energy(L=0.5mH)	E_{AS}	358	mJ
Avalanche Current(L=0.5mH)	I_{AS}	32	A
Junction and Storage Temperature Range	T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - case	$R_{\theta JC}$	1.9	/ W
Thermal resistance, junction - ambient	$R_{\theta JAP}$		/ W

/ Electrical Characteristic Curve

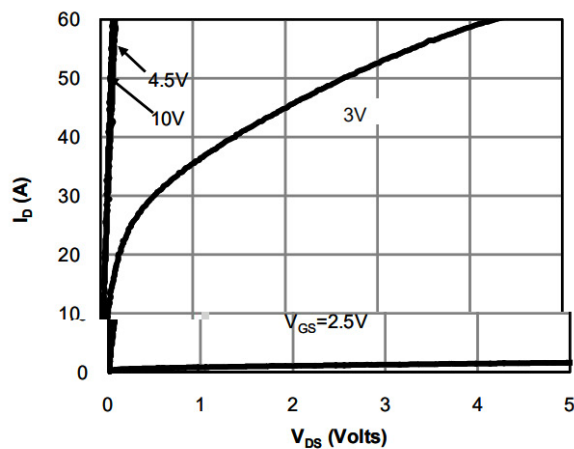


Figure 1: On-Region Characteristics

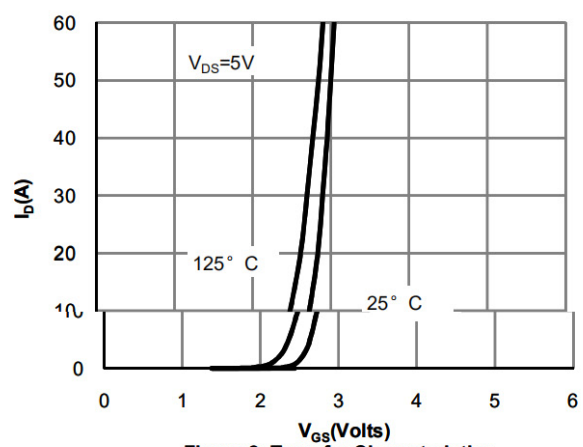


Figure 2: Transfer Characteristics

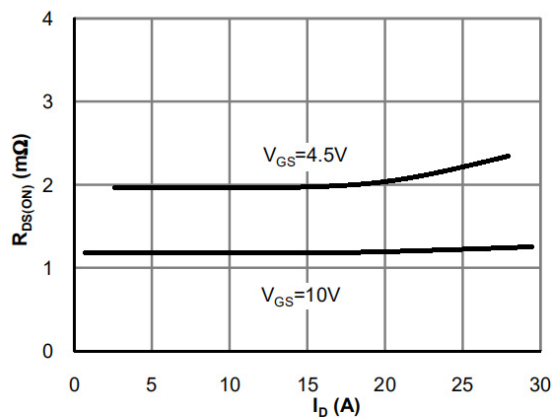


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

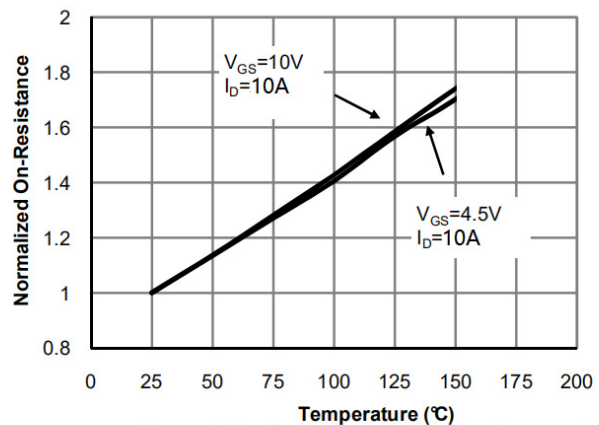


Figure 4: On-Resistance vs. Junction Temperature

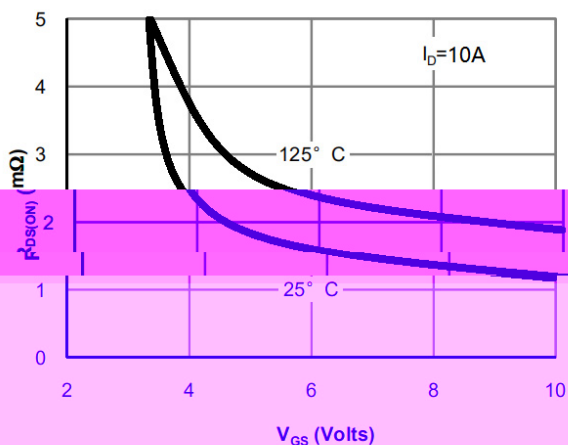


Figure 5: On-Resistance vs. Gate-Source Voltage

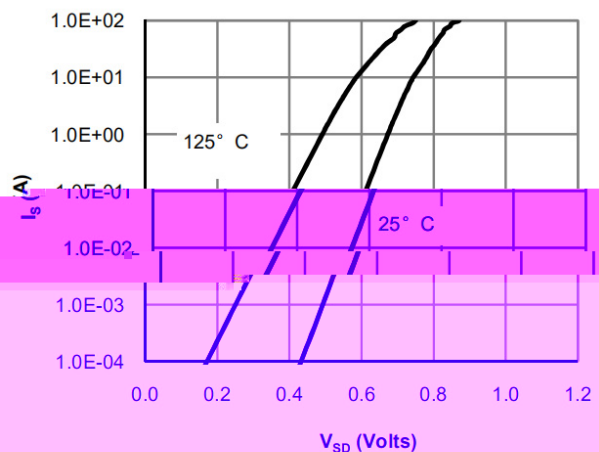


Figure 6: Body Diode Characteristics



Electrical Characteristic Curve

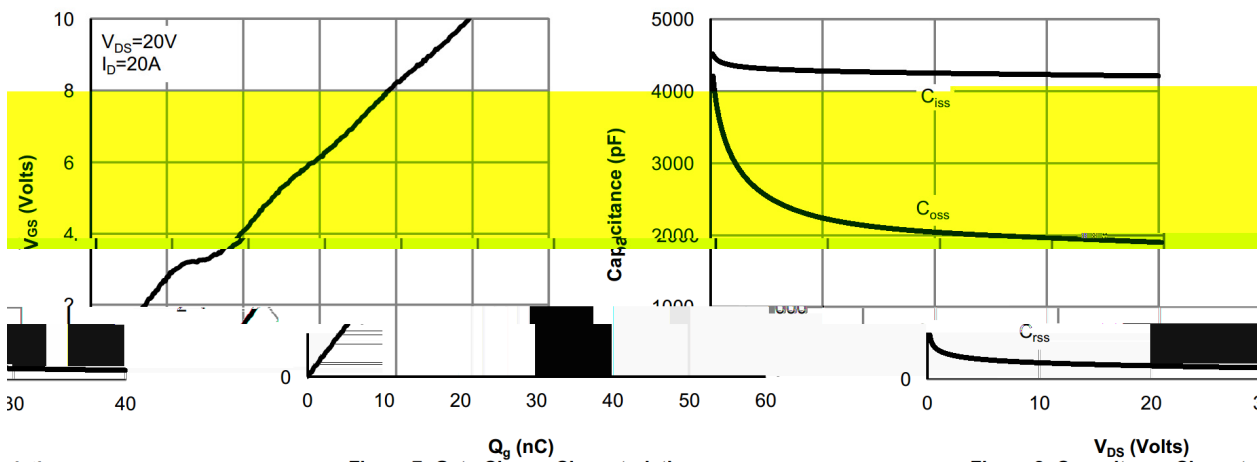


Figure 7: Gate-Charge Characteristics

Figure 8: Capacitance Characteristics

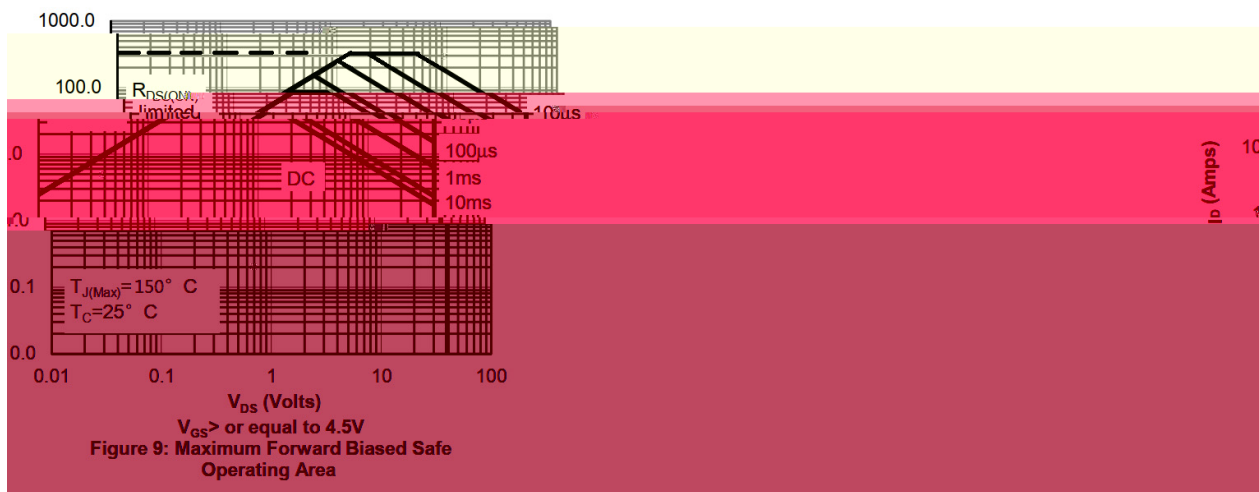


Figure 9: Maximum Forward Biased Safe Operating Area

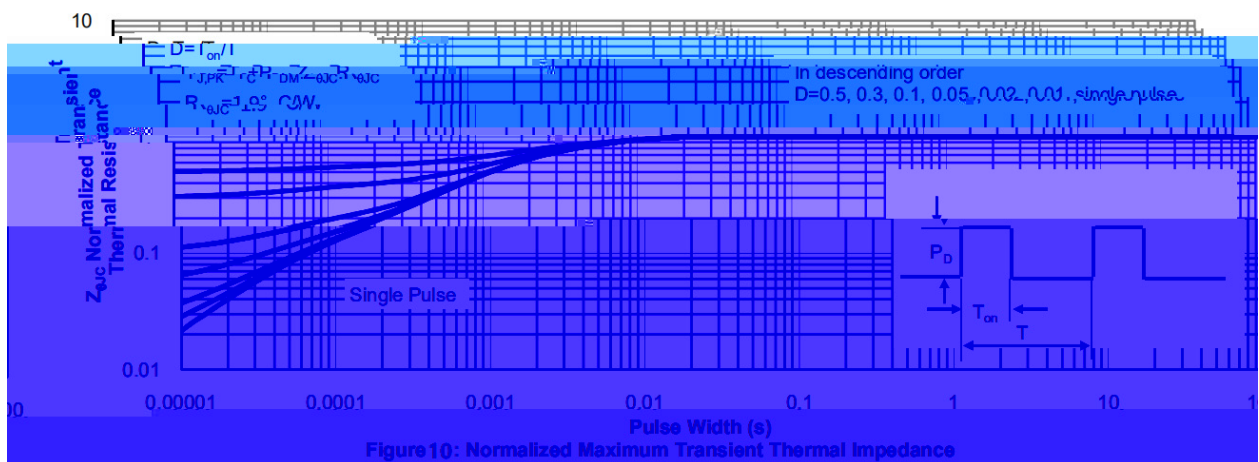
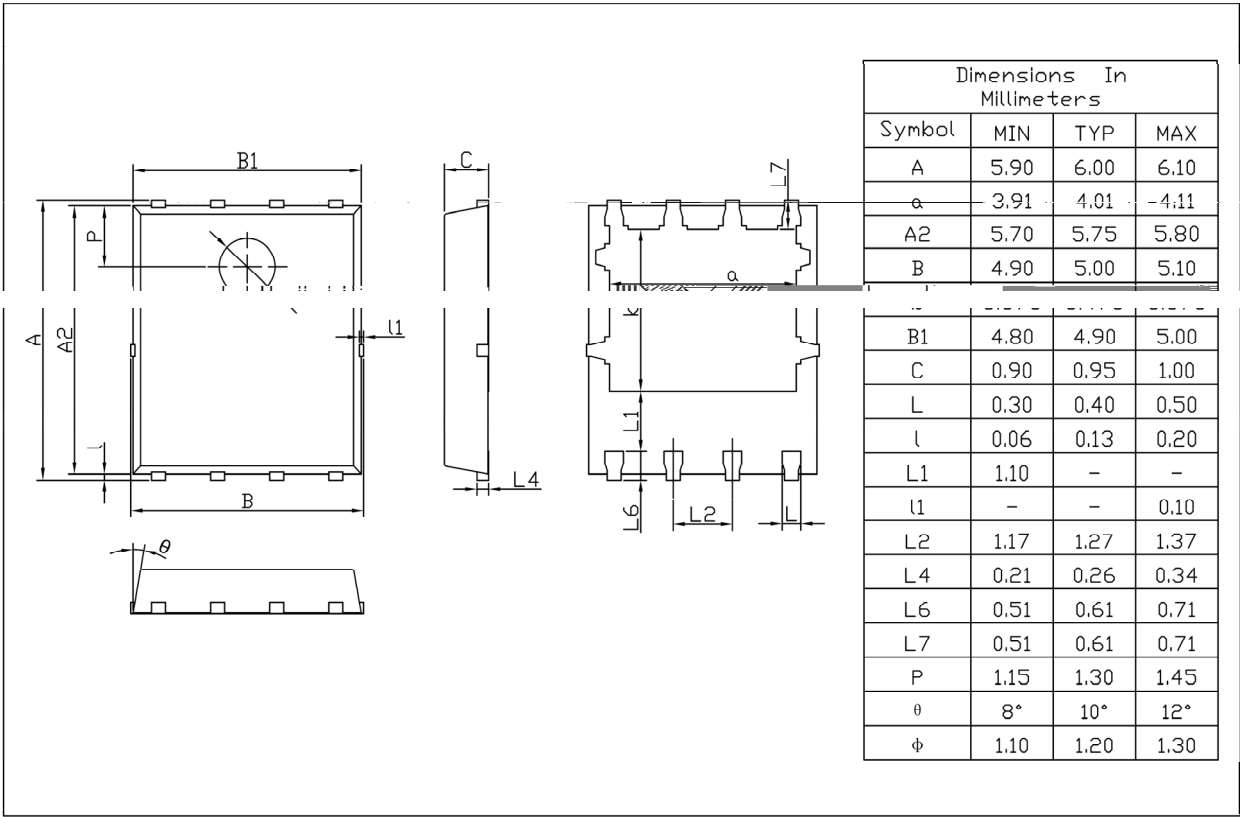


Figure 10: Normalized Maximum Transient Thermal Impedance

I Package Dimensions

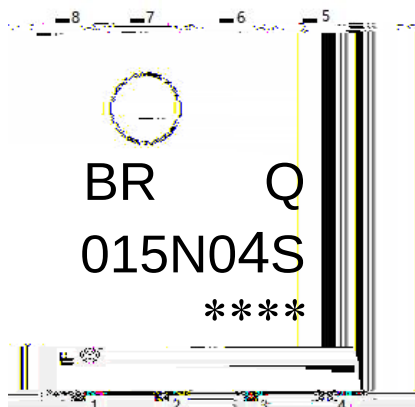
PDFN5×6

Unit:mm



Rev.01 202209

/ Marking Instructions



BR

Q

015N04S

Note

BR

Company Code

Q:

Automobile halogen-free product Code

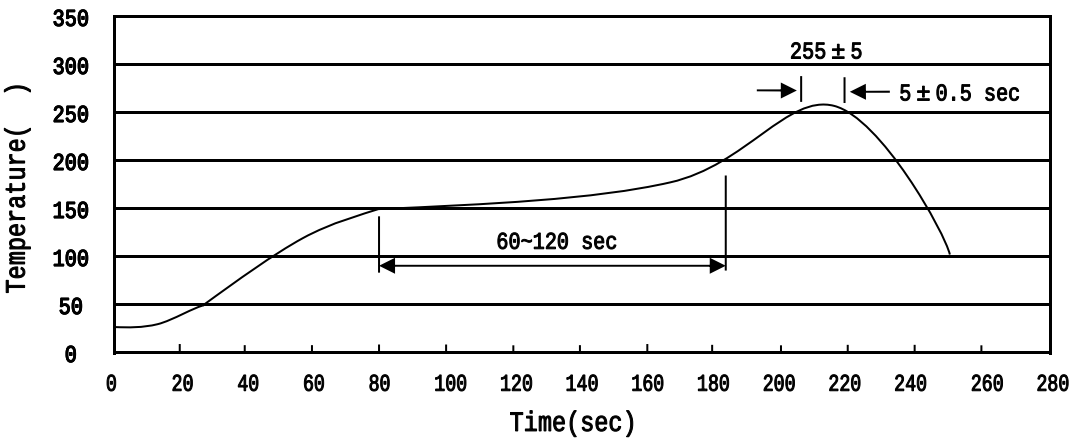
015N04S

Product Type

****:

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

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
PDFN5 6	5000	2	10000	6	60000	13" 12	360 360 50	380 335 366

/ Notices