/ Descriptions

PDFN5 6 N

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

/ Features

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

$R_{DS(ON)}$@10V≤2.0mΩ(Typ.1.8mR)

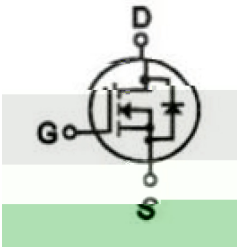
$R_{DS(ON)}$@4.5V≤3.0mΩ(Typ.2.5mR)

AEC-Q101 Qualified to AEC-Q101 Standards for High Reliability, HF Product.

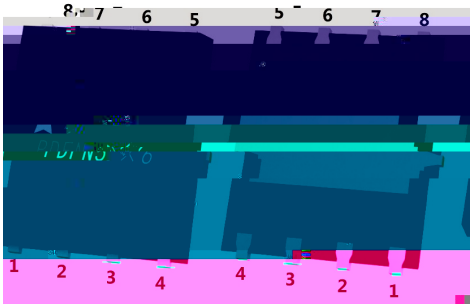
/ Applications

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

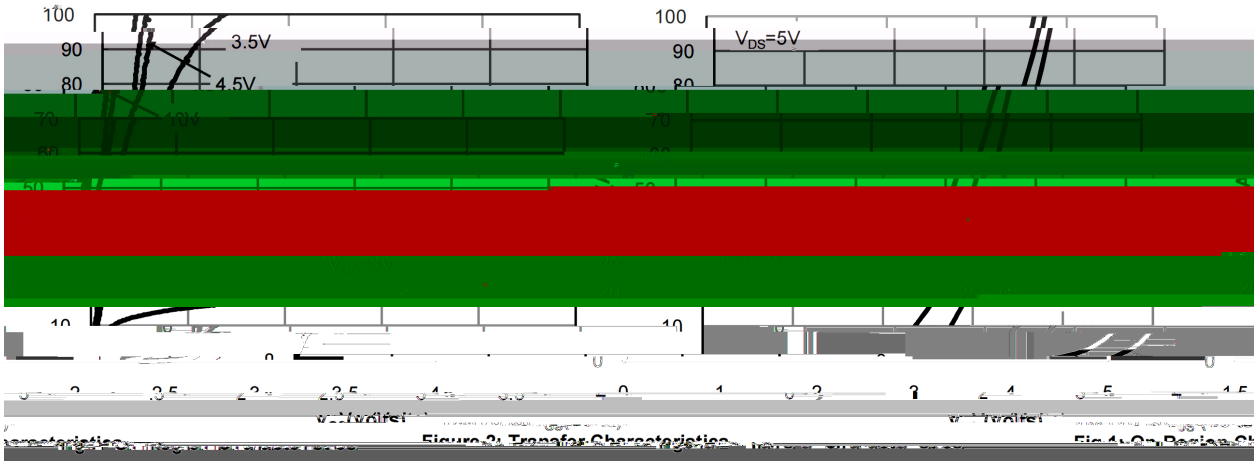
See Marking Instructions.

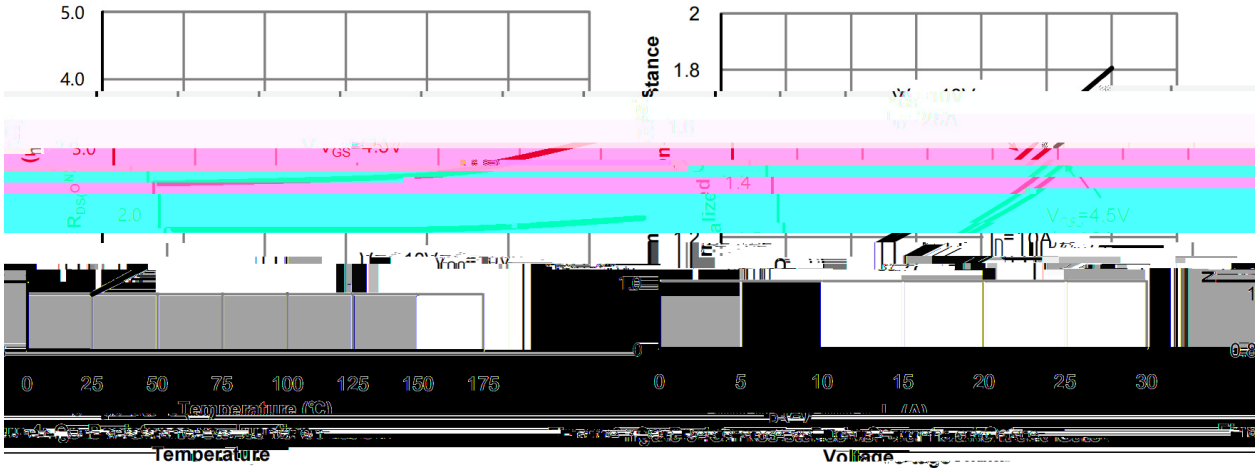
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Continuous Drain Current	I_D(Tc=25)	158	A
Pulsed Drain Current	I_{DM}	316	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation	P_D(T_c=25)	90	W
Avalanche energy(L=0.5mH)	E_{AS}	380	mJ
Avalanche Current(L=0.5mH)	I_{AS}	30.8	A
Junction and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

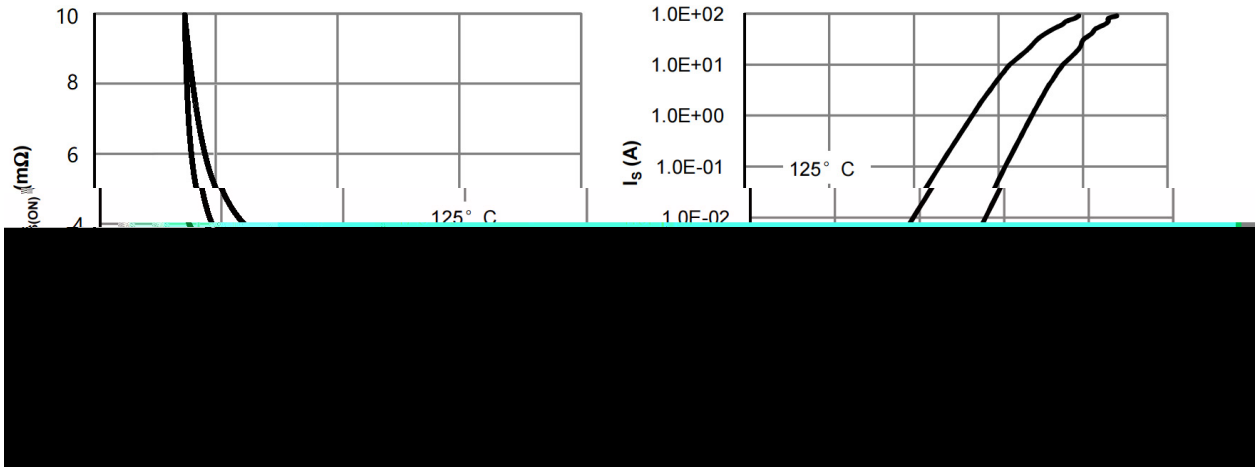
/ Electrical Characteristics(Ta=25

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=20V R_L=1Ω R_{GEN}=3Ω		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		

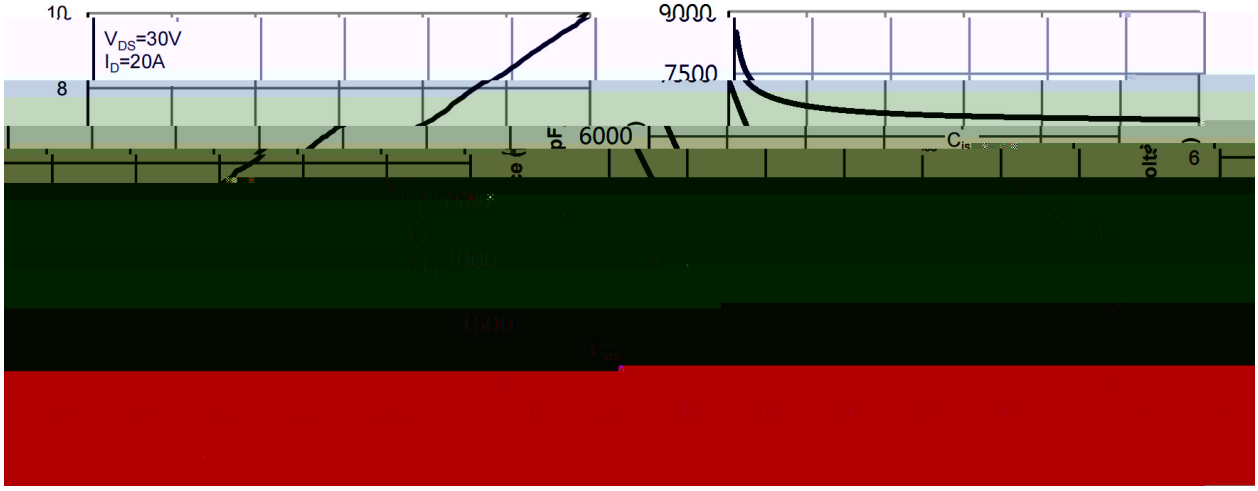
/ Electrical Characteristic Curve







/ Electrical Characteristic Curve



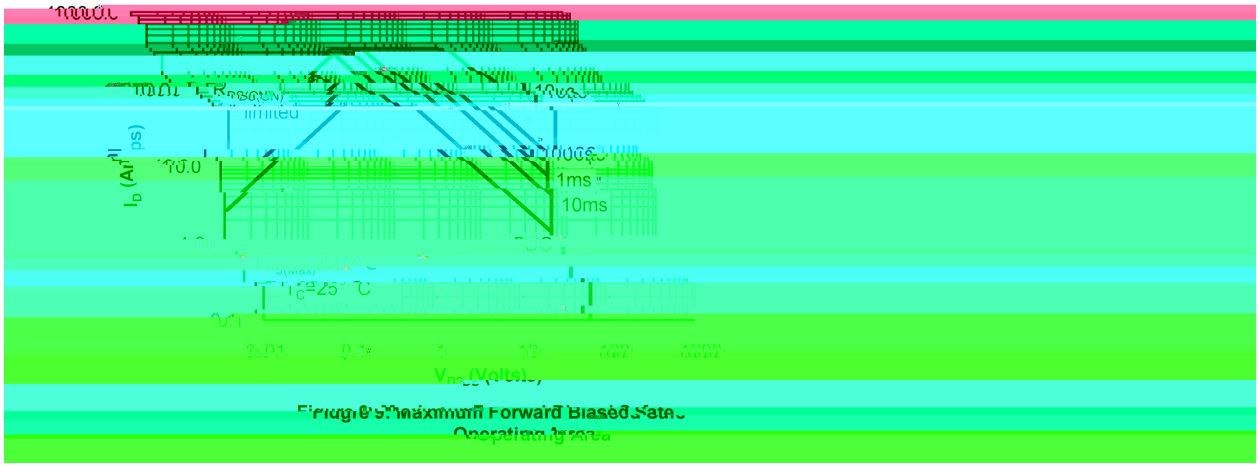
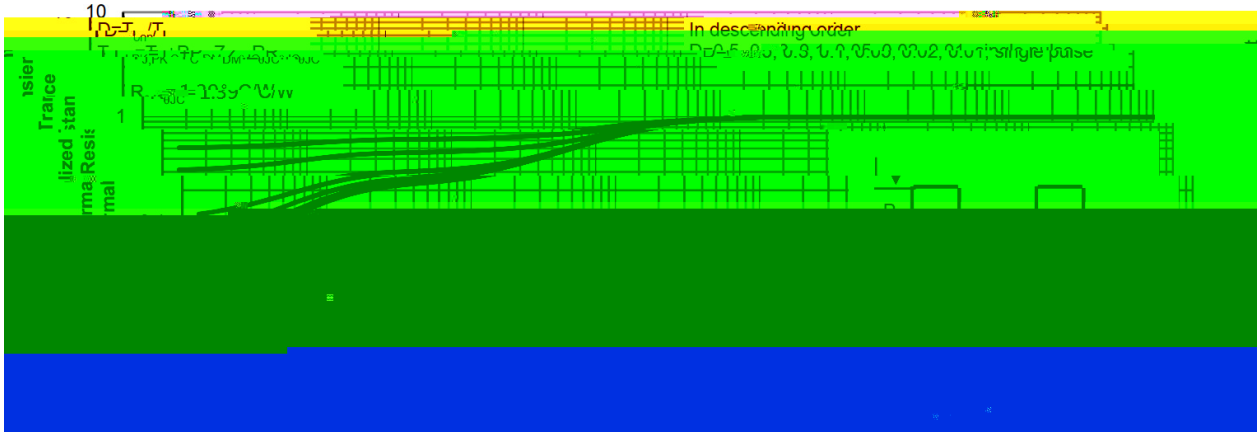
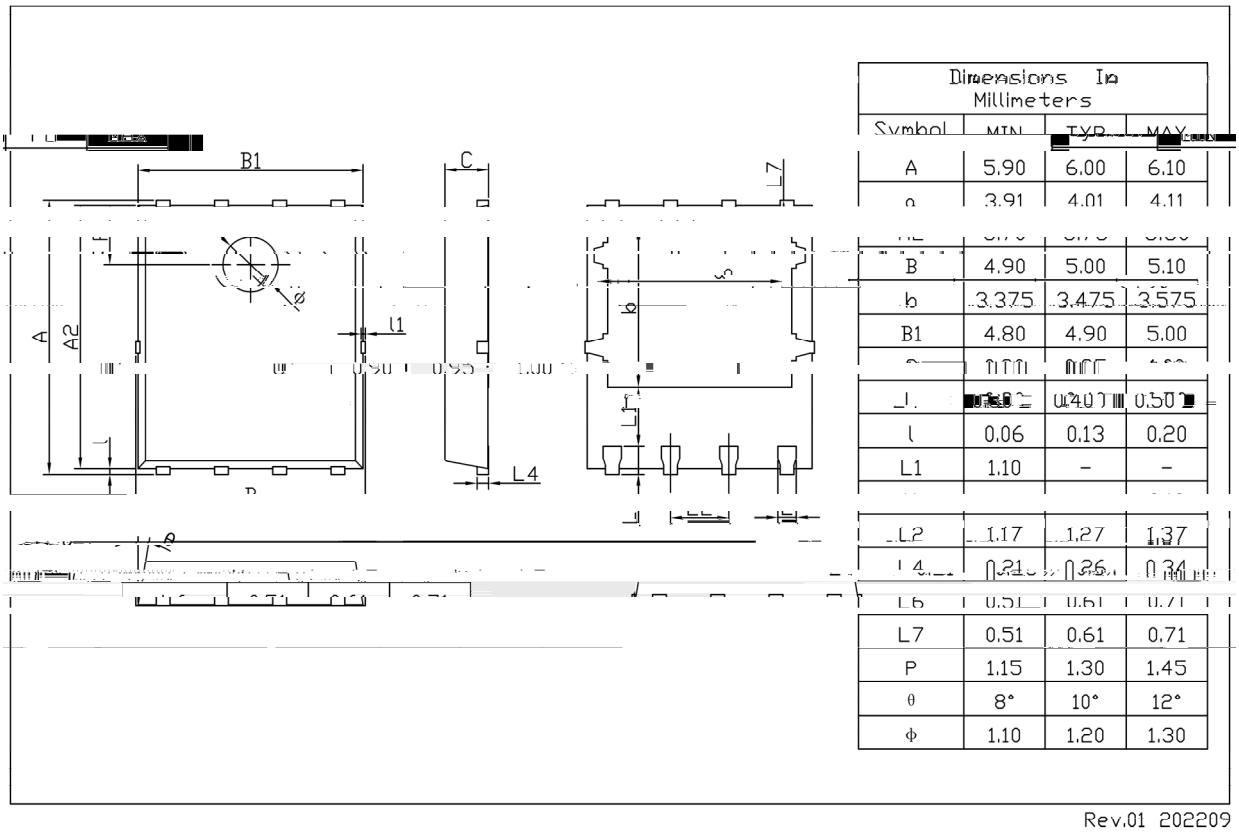


Figure 8: Maximum Forward Biased Safe Operating Area



/ Package Dimensions

PDFN5×6 Unit:mm



Dimensions In Millimeters			
Symbol	MIN	TYP	MAX
A	5.90	6.00	6.10
[illegible]	3.91	4.01	4.11
B	4.90	5.00	5.10
b	3.375	3.475	3.575
B1	4.80	4.90	5.00
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	0.40	0.50
l	0.06	0.13	0.20
L1	1.10	–	–
[illegible]	[illegible]	[illegible]	[illegible]
L2	1.17	1.27	1.37
L4	0.21	0.26	0.34
L6	0.51	0.61	0.71
L7	0.51	0.61	0.71
P	1.15	1.30	1.45
θ	8°	10°	12°
Φ	1.10	1.20	1.30

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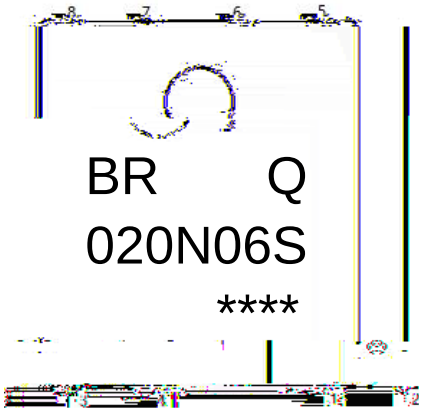
/ Marking Instructions



020N06S

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