

/ Descriptions

PDFN5Ö6–Clip M Ł N Œ Ĵ Œ Ĵ
N-Channel MOSFET in a PDFN5×6–Clip Plastic Package.

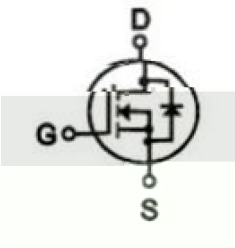
/ Features

$V_{DS}(V)=40V$ $I_D=200A$
 $R_{DS(ON)}@10V\leq0.8m\Omega(Typ. 0.65m\Omega)$
 $R_{DS(ON)}@4.5V\leq1.3m\Omega(Typ.1.1m\Omega)$
Ĵ Ĵ Ĵ HF Product.

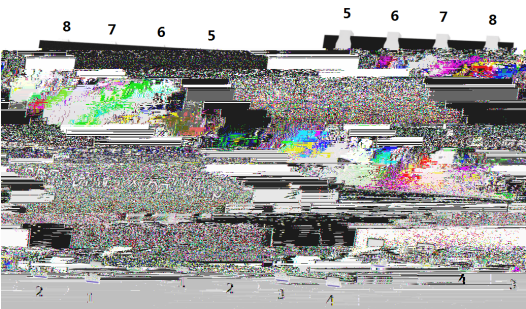
/ Applications

Œ Œ Œ Ĵ Ĵ DC-DC Œ Œ Ĵ
Motor drivers, DC-DC Converter.

/ Equivalent Circuit



/ Pinning



PIN1 2 3 S PIN4 G PIN5 6 7 8 D

/ Marking

Œ M Ĵ Ĵ
See Marking Instructions.



Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	40	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	200	A
	$I_D(T_C=100^\circ\text{C})$	200	A
Drain Current – Pulsed	$I_{DM}(T_C=25^\circ\text{C})$	800	A
Power Dissipation	$P_D(T_C=25^\circ\text{C})$	150	W
Operating and Storage Temperature Range	T_J, T_{stg}	-55 to 175	$^\circ\text{C}$
Diode Forward Current	$I_S(T_C=25^\circ\text{C})$	200	A
Single Pulsed Avalanche Energy(L=1.0mH)	E_{AS}	1012	mJ
Thermal resistance, junction – ambient	$R_{\theta JA}$	56	$^\circ\text{C}/\text{W}$
Thermal resistance, junction – case	$R_{\theta JC}$	1	

Note:

1. Surface Mounted on 1 in² pad area, $t \leq 10$ sec
2. Pulse width $\leq 10 \mu\text{s}$, duty cycle $\leq 1\%$
3. limited by bonding wire

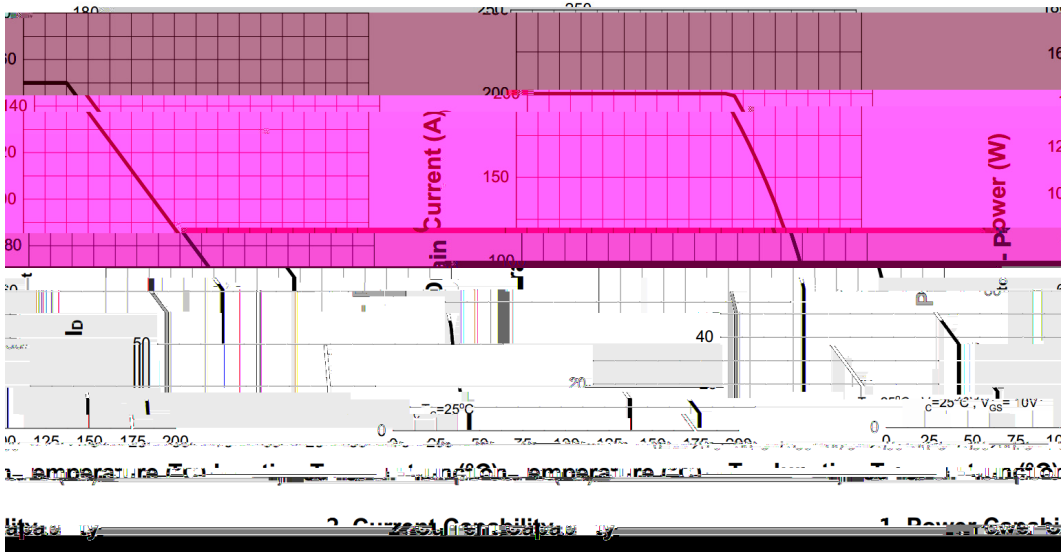
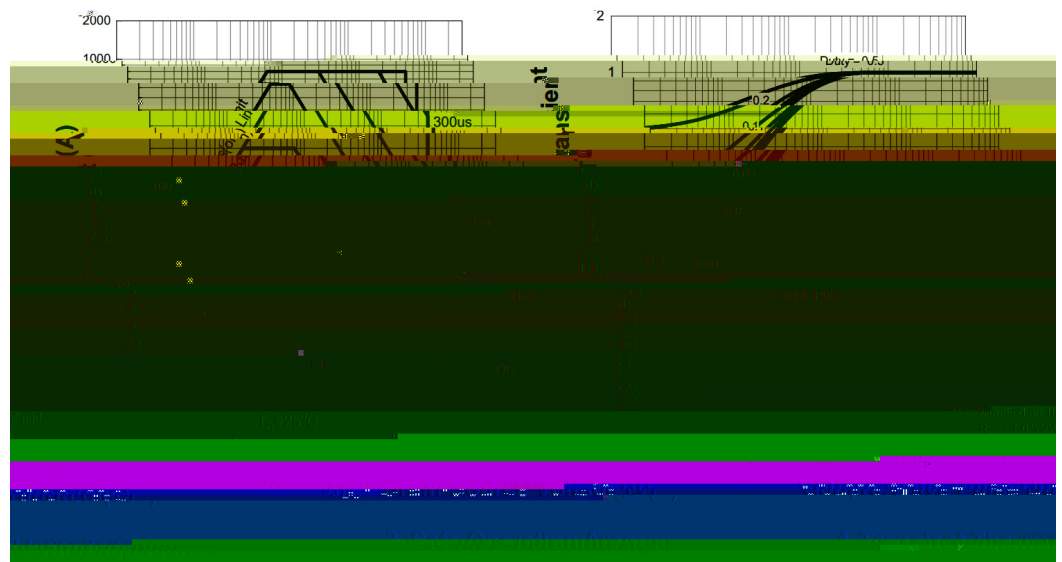
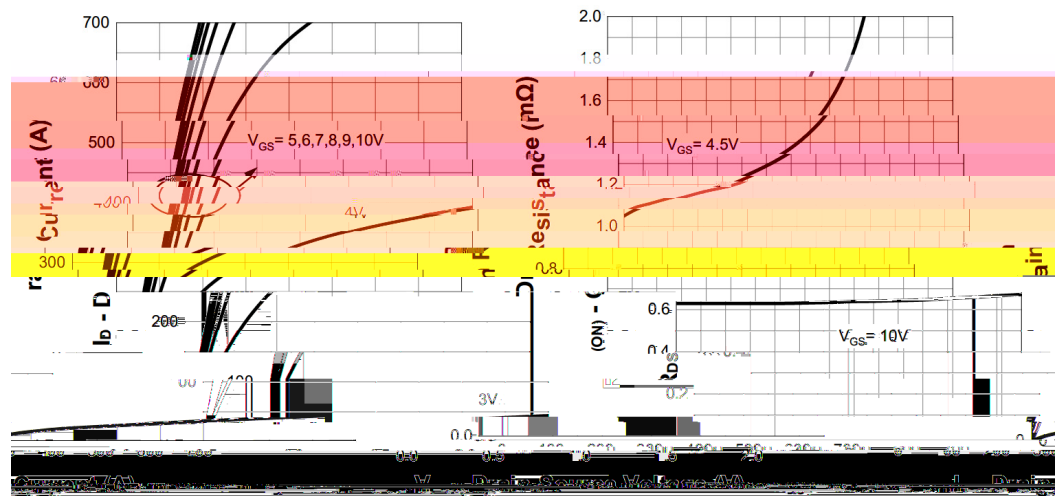
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	40			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.0		2.5	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=32V$ $V_{GS}=0V$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=30A$		0.65	0.8	m Ω
		$V_{GS}=4.5V$ $I_D=20A$		1.1	1.3	m Ω

Drain-Source Diode Forward

/ 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 =0.66Ω R _{GEN} =3.9Ω I _{DS} =30A		54		ns
Turn-On Rise Time	t _r			65		
Turn-Off Delay Time	t _{d(off)}			101		
Turn-Off Fall Time	t _f			73		
Total Gate Charge	Q _g	V _{GS} =10V V _{DS} =20V I _D =30A		114		nC
Gate Source Charge	Q _{gs}			23		
Gate Drain Charge	Q _{gd}			25		

/ Electrical Characteristic Curve



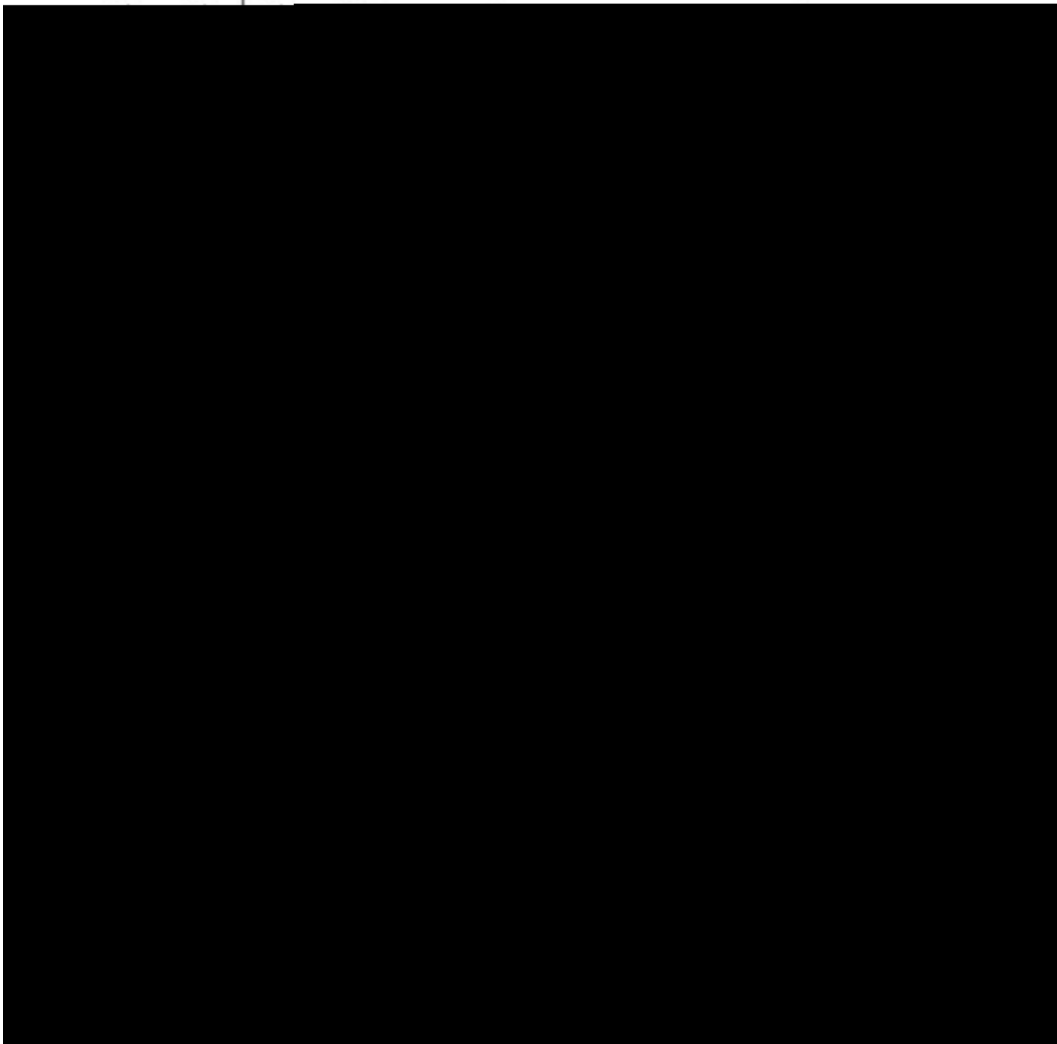
6. On Resistance

5. Output Characteristics



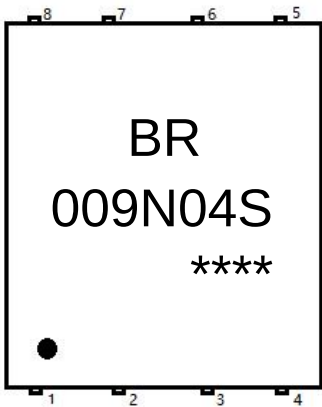
/ Electrical Characteristic Curve

/ Package Dimensions



Dimensions in Millimeters			
	MAX.		MIN.
	1.17	A	1.03
	0.40		0.34
	0.97		0.94
D	4.80		5.40
D1	4.11		4.31
	6.15	E	5.95
	5.85	E1	5.65
	-	E2	1.40
7 RSC		F	1.2
05	0.25	L	0.0
38	0.50	L1	0.3
38	0.71	L2	0.3
30	3.50	H	3.3
	0.18		-

/ Marking Instructions



EU	
009N04S	

Note	
BR	Company Code
009N04S	Product Type Code
****:	Lot No. Code, code change with Lot No.

Reflow Profile for IR Reflow Soldering(Pb-Free)

Note:

- sec; 1.Preheating:150~180 ℃ , Time:60~90sec.
 0.5sec; 2.Peak Temp.:245 °C ± 5 ℃ , Duration:5 ~ 0.5sec.
 3. Cooling Speed: 2~10 ℃ /sec.

Soldering Heat Test Conditions

Temp.:260±5

Time:10±1 sec

	Dimension	(unit mm ³)
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