

/ Descriptions

PDFN5×6A N

Dual N-CHANNEL MOSFET in a PDFN5×6A Plastic Package.

/ Features

Dual N-Ch

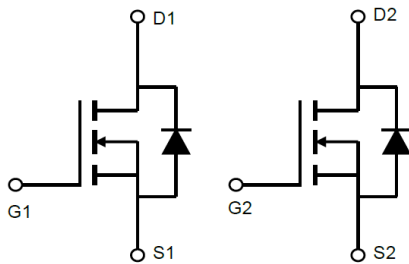
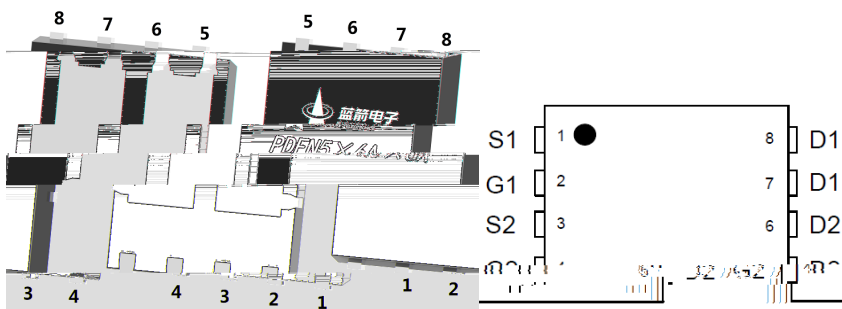
 $V_{DS}(V)=40V$ $I_D=60.2A$ $R_{DS(ON)}<6.5m\Omega(V_{GS}=10V)$ $R_{DS(ON)}<12.5m\Omega(V_{GS}=4.5V)$

HF Product.

/ Applications

PWM LED

PWM Application, Load Switch, Power Management, Dimming LED.

/ Equivalent Circuit**/ Pinning****/ Marking**

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	40	V
Drain Current		$I_D(T_c=25^\circ\text{C})$	60.2	A
Drain Current - Pulsed		I_{DM}	217	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy		E_{AS}	240.1	mJ
Avalanche Current		I_{AS}	24.5	A
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	36	W
Operating and Storage Temperature Range		T_J, T_{stg}	-55 to 150	
Junction-to-Ambient	$t \leq 10$	$R_{\theta JA}$	45	/W
Junction-to-Ambient	Steady-State		80	
Junction-to-Case	Steady-State	$R_{\theta JC}$	3.5	

/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ $I_D=250\mu A$	40	45		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=40V$ $V_{GS}=0V$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.0	1.5	3.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=20A$		6.1	6.5	m Ω
		$V_{GS}=4.5V$ $I_D=10A$		9.1	12.5	m Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		2300		pF
Output Capacitance	C_{oss}			170		
Reverse Transfer Capacitance	C_{rss}			130		
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$ $f=1MHz$		2.2		Ω
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $V_{DS}=20V$ $I_D=10A$		27.3		nC
Total Gate Charge	$Q_{g(4.5V)}$			13.4		
Gate Source Charge	Q_{gs}			4.3		
Gate Drain Charge	Q_{gd}			6.2		

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=20V$ $R_L=2\Omega$ $R_{GEN}=3\Omega$		6.3		ns
Turn-On Rise Time	t_r			17.1		
Turn-Off Delay Time	$t_{d(off)}$			28.7		
Turn-Off Fall Time	t_f			15.9		

Electrical Characteristic Curve

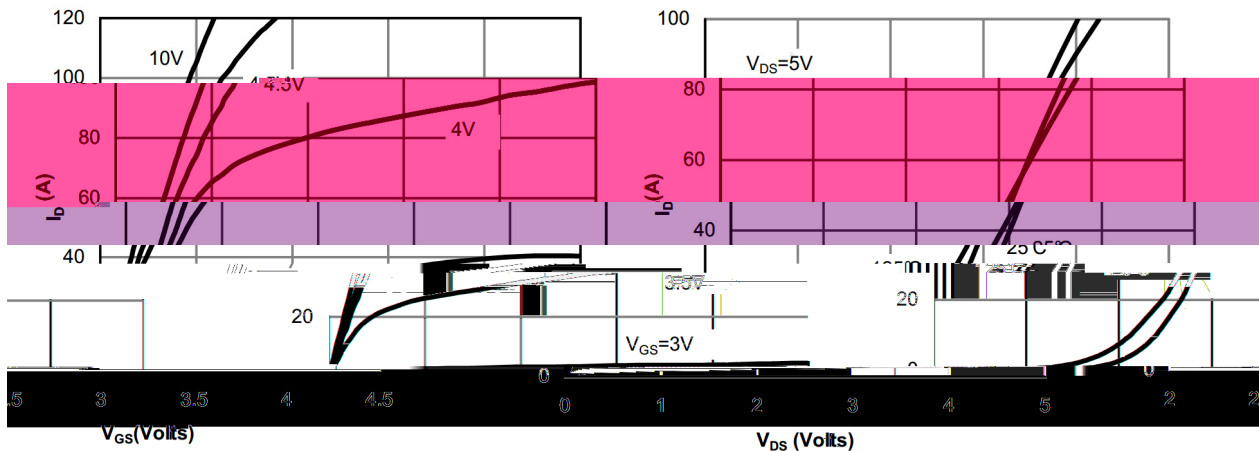


Figure 2: Transfer Characteristics

Figure 4: Drain Current Characteristics

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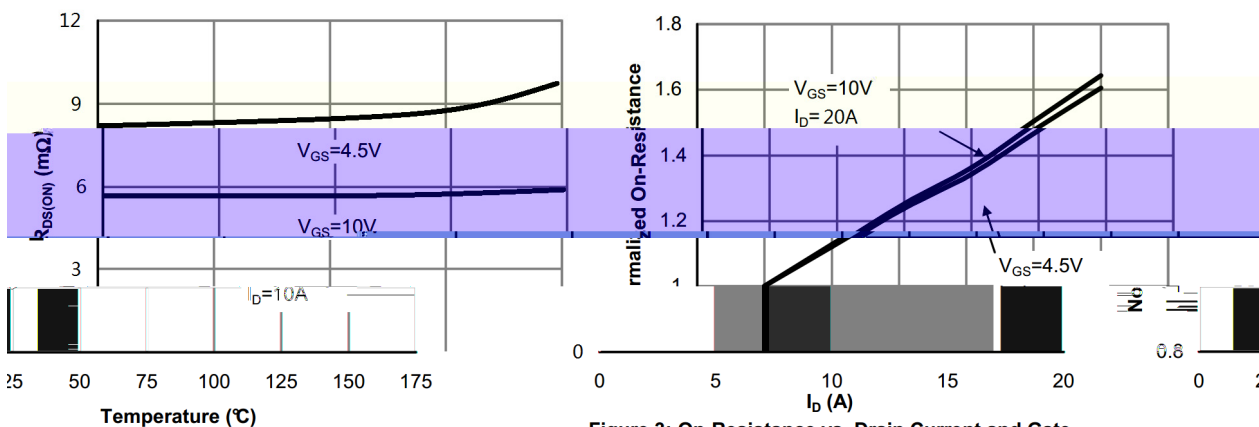
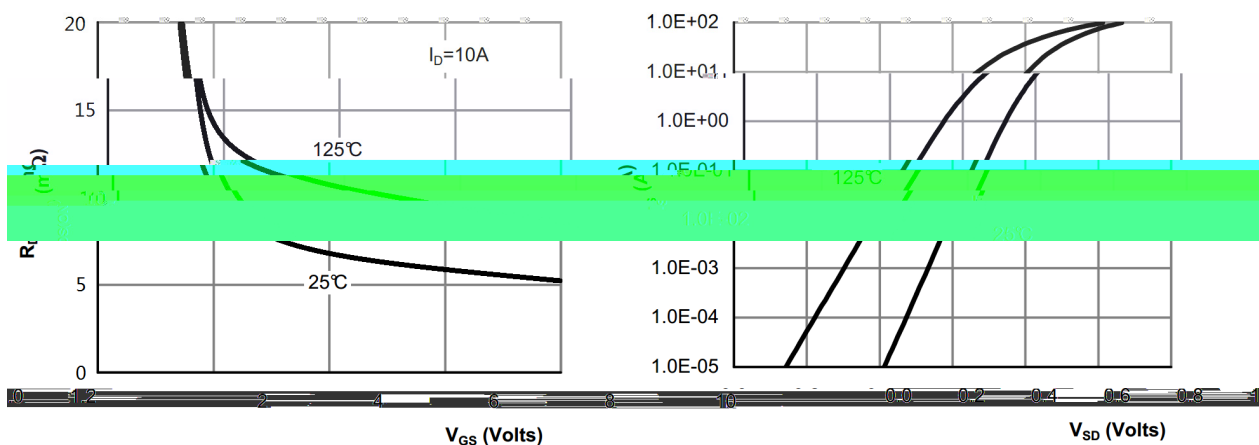


Figure 3: On-Resistance vs. Drain Current and Gate

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

Figure

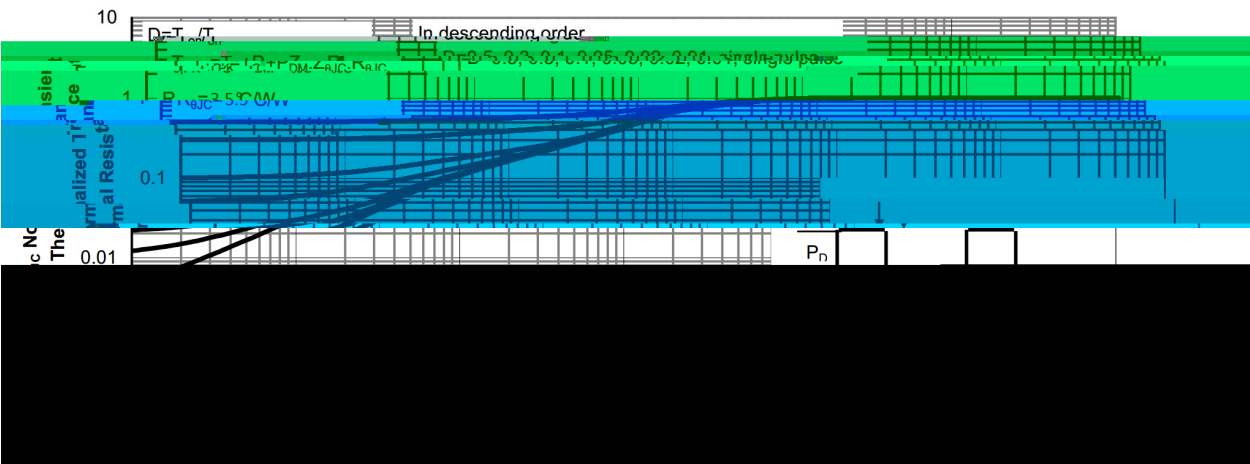
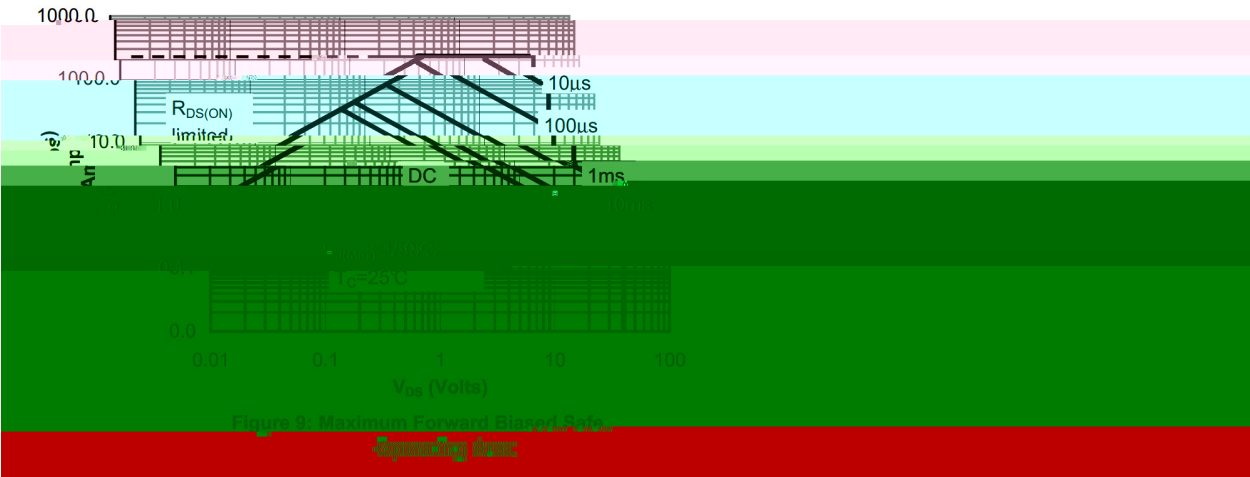
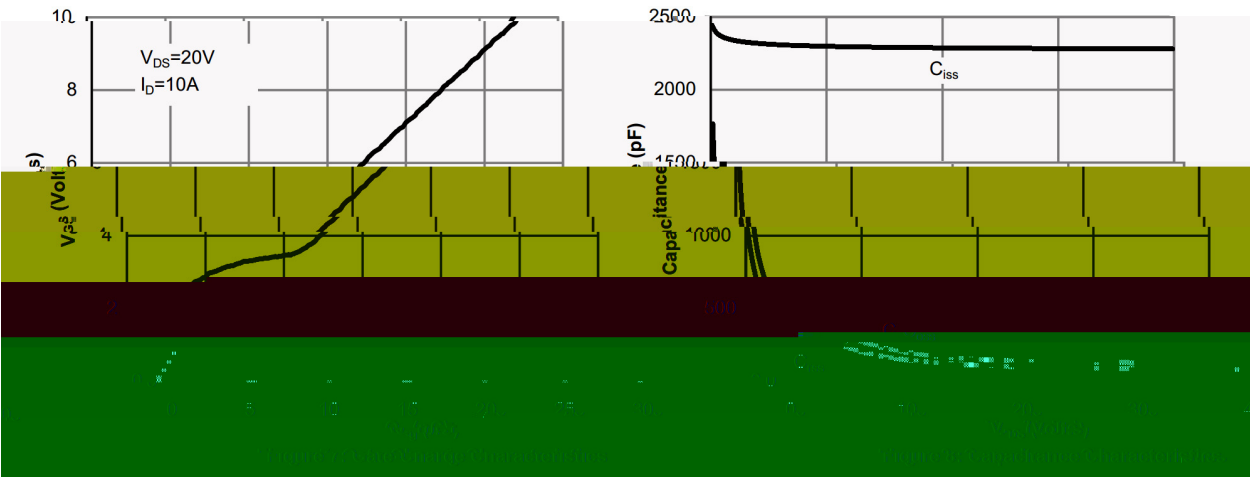


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Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

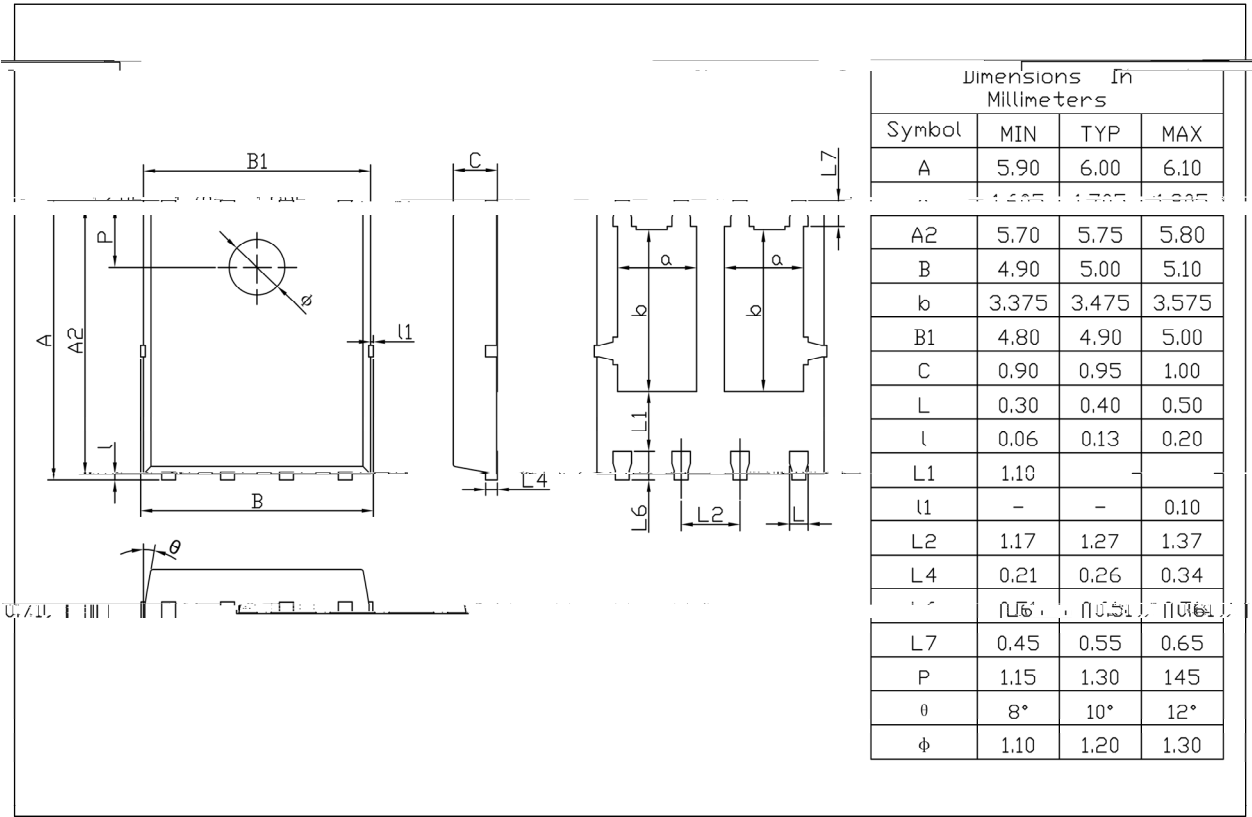
/ Electrical Characteristic Curve



I Package Dimensions

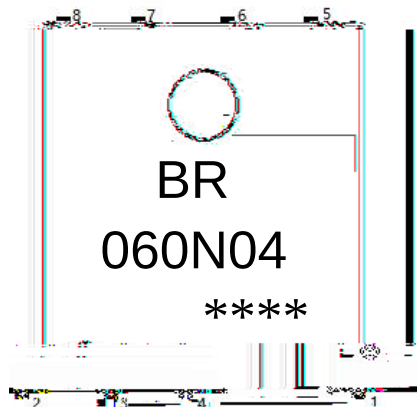
PDFN5 X6A

Unit:mm



Rev.01 202209

/ Marking Instructions



BR

060N04

Note

BR

Company Code

060N04

Product Type

****:

Lot No. Code, code change with Lot No

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Note:

- | | | | |
|---|---------|-----------|---|
| 1 | 150 180 | 60 90sec; | 1.Preheating:150~180 , Time:60~90sec. |
| 2 | 245±5 | 5±0.5sec; | 2.Peak Temp.:245±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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/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	/	/	/	/	/			
PDFN5×6A	5000	2	10000	6	60000	13"×12	360×360×50	380×335×366

/ Notices