

版本	修订日期	有修订的页码	修订涉及的内容	拟制	审核
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A 2021.06.09

/ Descriptions

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

/ Features

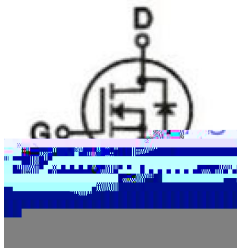
Low $R_{DS(ON)}$ to minimize conductive loss, low Gate Charge for fast switching, Low Thermal resistance, HF Product.

/ Applications

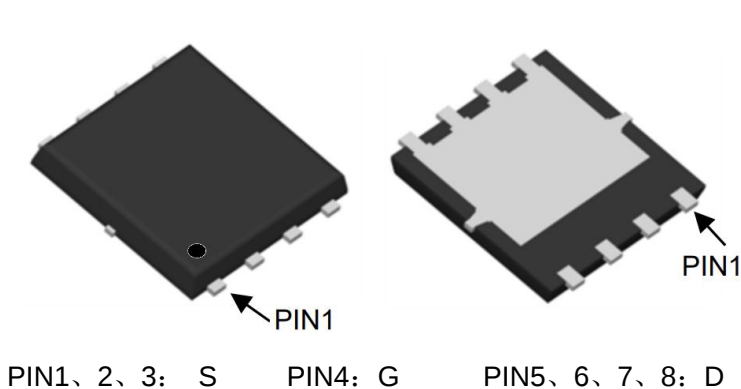
LED

For boost converters and synchronous rectifiers for consumer, telecom, industrial power supplies and LED backlighting.

/ Equivalent Circuit



/ Pinning



Pin	极性
1	S
2	S
3	S
4	G
5	D
6	D
7	D
8	D

/ h_{FE} Classifications & Marking

见印章说明。 See Marking Instructions.

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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V _{DS}	80	V
Drain Current - Continuous		I _D	85	A
Drain Current – Pulsed		I _{DM}	200	A
Gate-Source Voltage		V _{GS}	± 20	V
Power Dissipation		P _D (T _c =25°C)	83	W
Single Pulse Avalanche Energy(L=0.5mH)		E _{AS}	924	mJ
Avalanche Current(L=0.5mH)		I _{AS}	44.5	A
Junction and Storage Temperature Range		T _j , T _{stg}	-55 to 150	°C
Thermal resistance, junction - ambient	t ≤ 10s	R _{θJA}	17	°C/ W
	Steady-State		55	
Thermal resistance, junction - case	Steady-State	R _{θJC}	1.5	

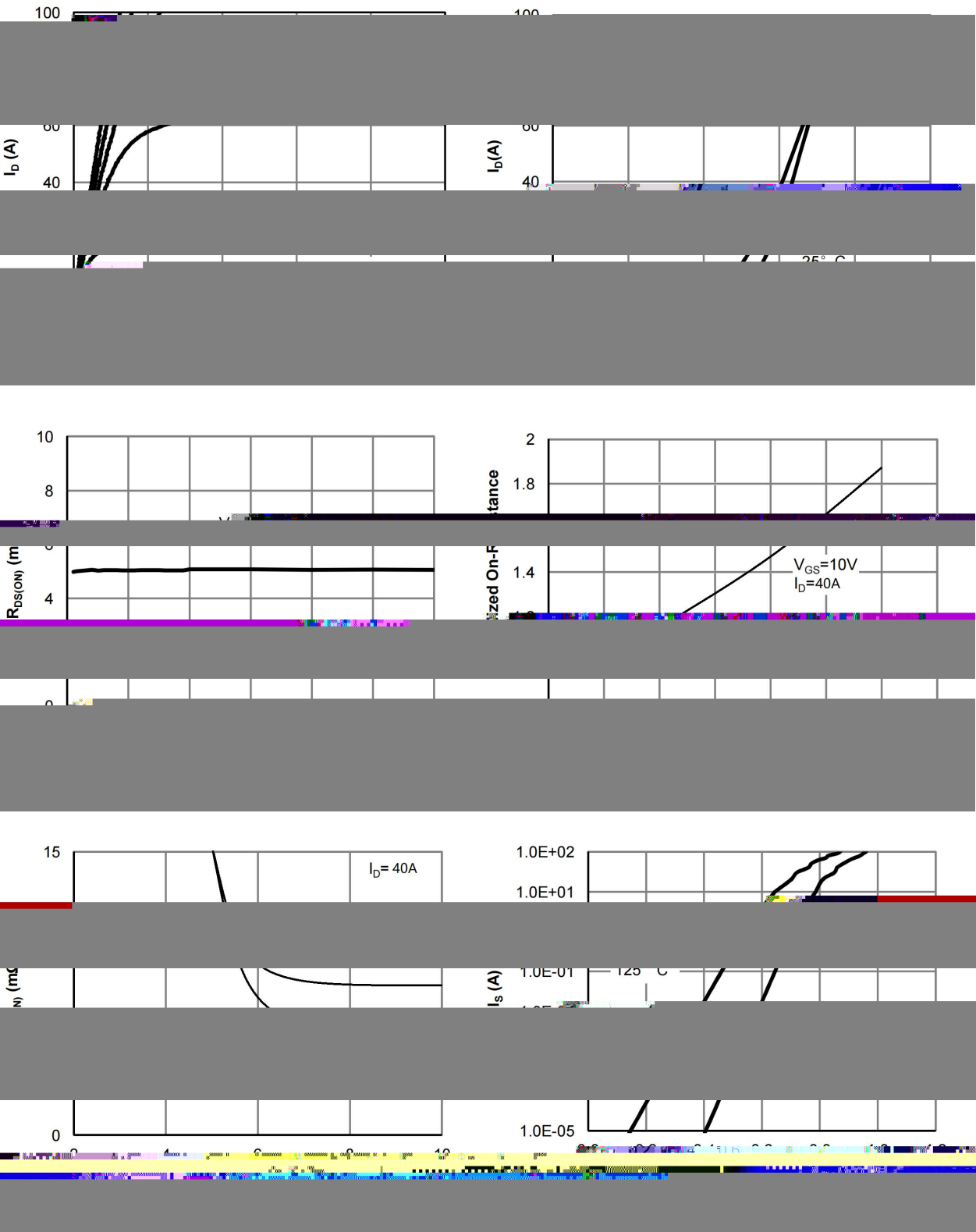
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	80	90		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=80\text{V}, V_{GS}=0\text{V}$			1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	2	3.1	4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=40\text{A}$		5.0	6.5	m Ω
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		3600		pF
Output Capacitance	C_{oss}			1380		
Reverse Transfer Capacitance	C_{rss}			110		
Gate resistance	R_g	$V_{GS}=0\text{V}, V_{DS}=0\text{V}$ $f=1\text{MHz}$		2.5		Ω
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10\text{V}, V_{DS}=40\text{V}$ $I_D=20\text{A}$		36.5		nC
Gate Source Charge	Q_{gs}			11		
Gate Drain Charge	Q_{gd}			6		

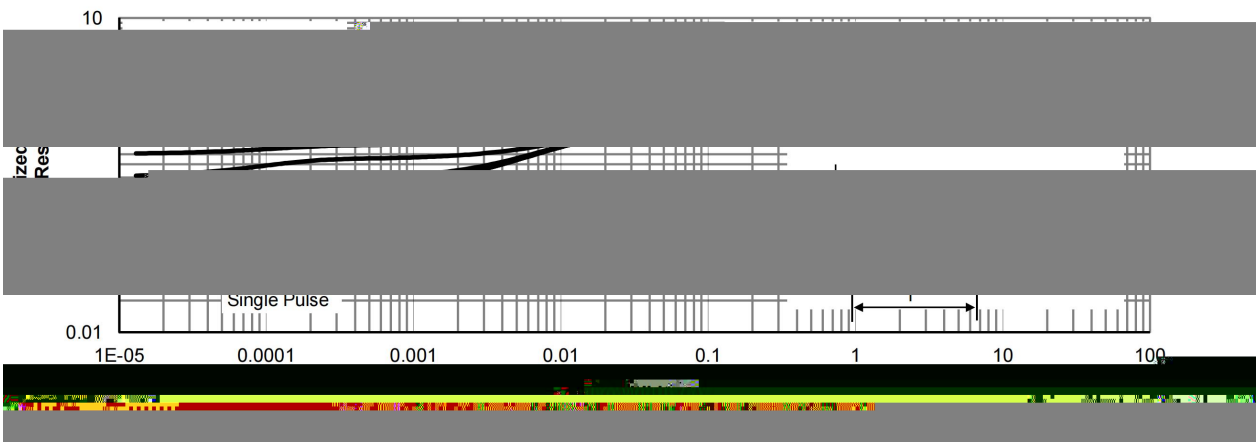
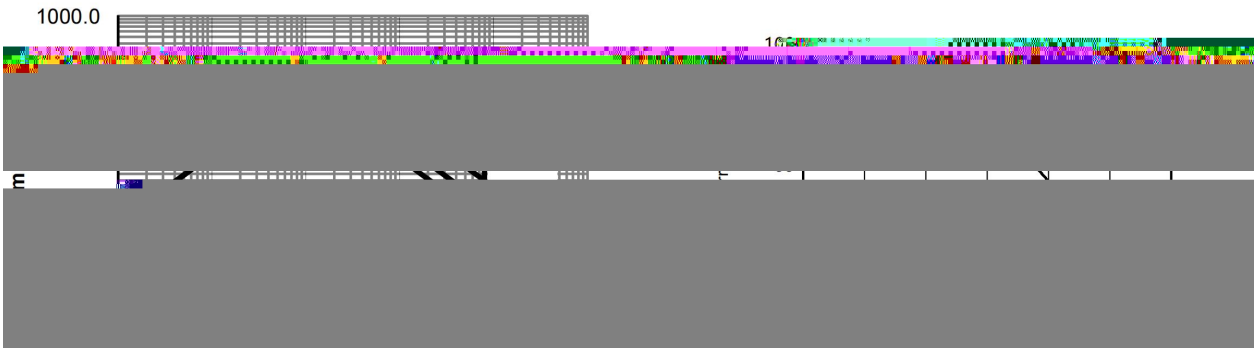
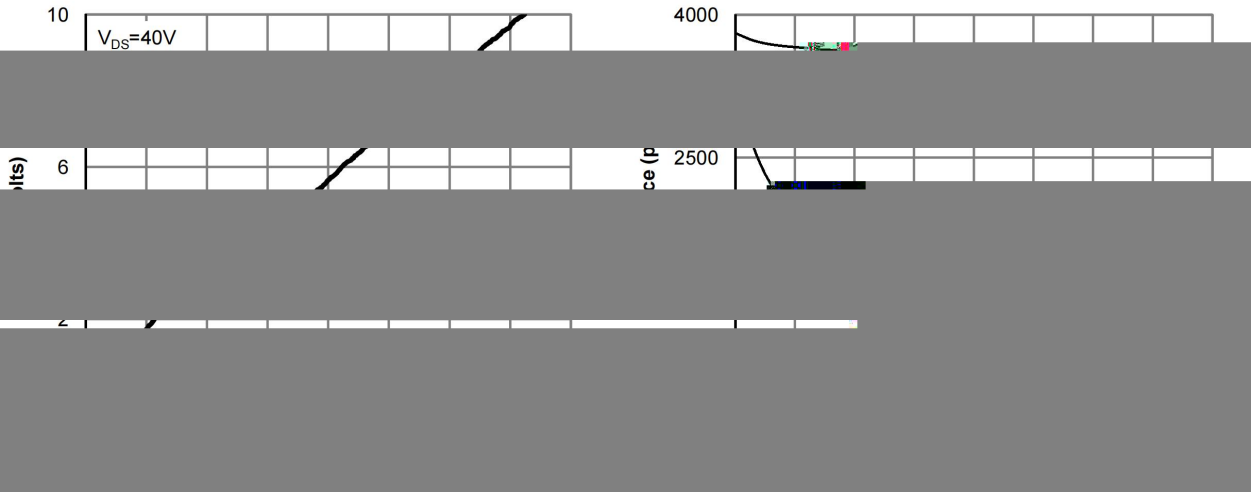
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{D(on)}$	$V_{GS}=10V, V_{DS}=40V,$ $R_L=2\Omega, R_{GEN}=3\Omega$		11		ns
Turn-On Rise Time	t_r			5		
Turn-Off Delay Time	$t_{D(off)}$			25		
Turn-Off Fall Time	t_f			6		

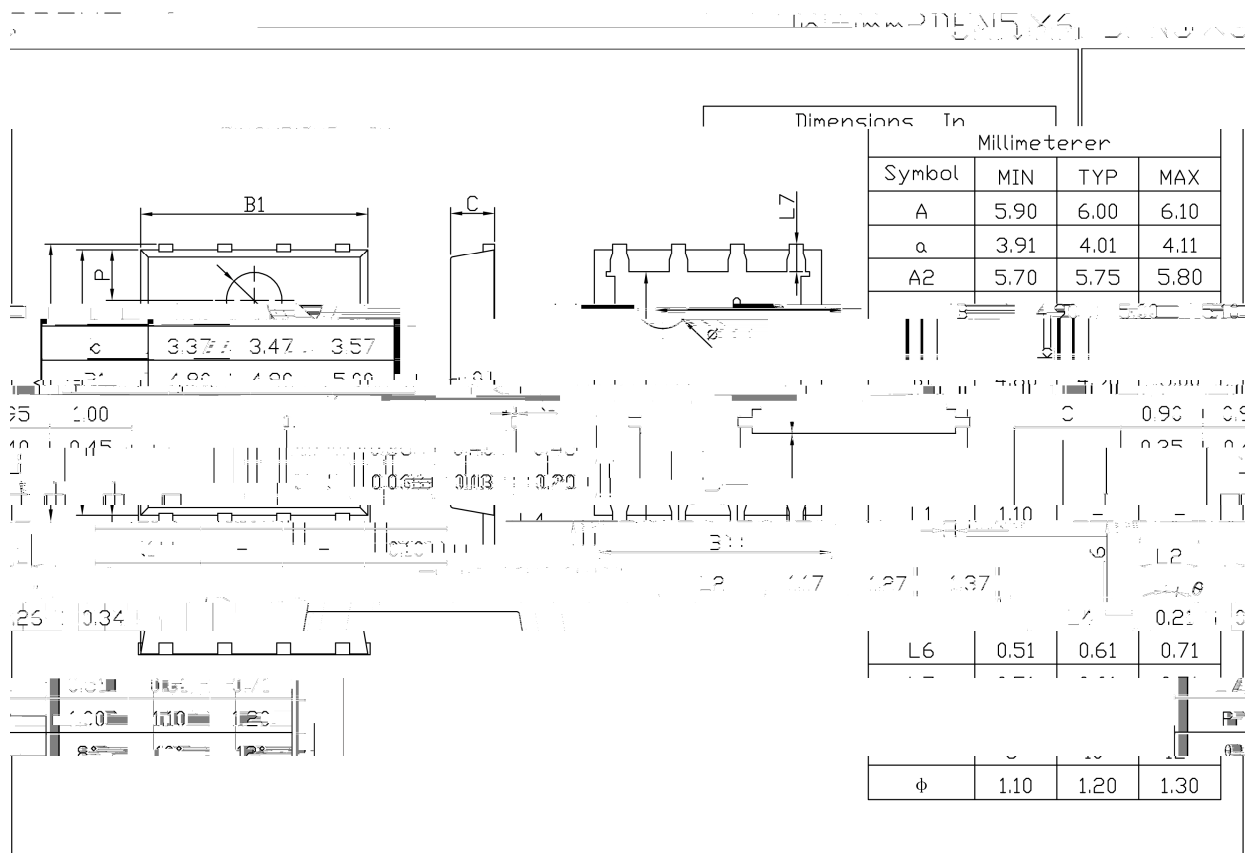
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



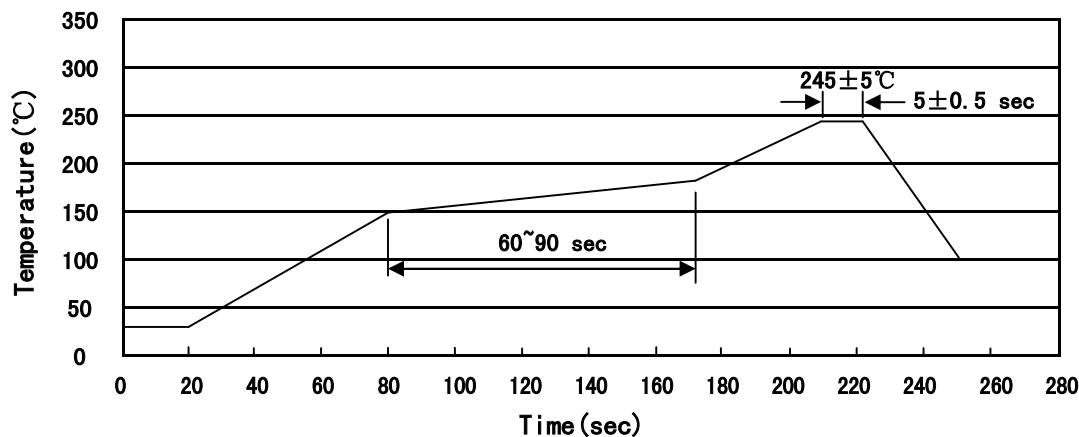
/ Package Dimensions





/ Marking Instructions

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

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

/ Resistance to Soldering Heat Test Conditions

260±5°C

10±1 sec.

Temp.:260±5°C

Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
PDFN5 × 6	5000	2	10000	6	60000	13" × 12	360 × 360 × 50	380 × 335 × 366

/ Notices