

描述 / Descriptions

PDFN5×6 封装 N 沟道场效应管。

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

特征 / Features

$V_{DS}(V)=150V$ $I_D=21A$

$R_{DS(ON)}@10V \leq 45m\Omega$ (Typ. 40m Ω)

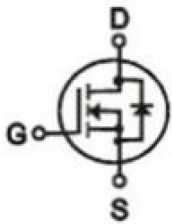
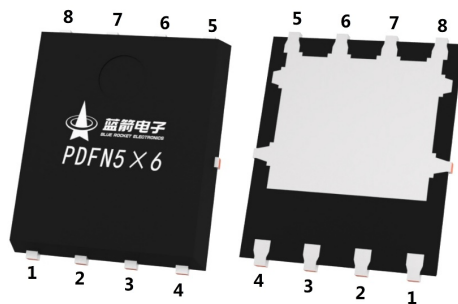
$R_{DS(ON)}@6V \leq 55m\Omega$ (Typ. 45m Ω)

无卤产品。HF Product.

用途 / Applications

液晶电视设备，大功率逆变系统，LCDM 电器。

LCD TV appliances, High power inverter system, LCDM appliances.

内部等效电路 / Equivalent Circuit**引脚排列 / Pinning**

PIN1、2、3: S PIN4: G PIN5、6、7、8: D

印章代码 / Marking

见印章说明。

See Marking Instructions.

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

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DS}	150	V
Continuous Drain Current	$I_D(T_c=25^{\circ}\text{C})$	21	A
	$I_D(T_c=100^{\circ}\text{C})$	13.8	A
Pulsed Drain Current*	I_{DM}	84	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation	$P_D(T_c=25^{\circ}\text{C})$	50	W
Junction and Storage Temperature Range	T_j, T_{stg}	-55 to 150	$^{\circ}\text{C}$
Continuous-Source Current	I_S	21	A
Maximum Junction-to-Ambient**	$R_{\theta JA}$	50	$^{\circ}\text{C/W}$
Maximum Junction-to-Case**	$R_{\theta JC}$	2.5	

Notes:

* Pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2\%$

** Mounted on Large Heat Sink

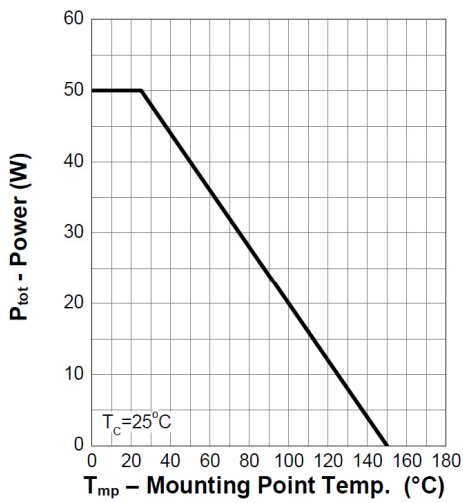
电性能参数 / Electrical Characteristics($T_a=25^{\circ}\text{C}$)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	150			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=120\text{V}, V_{GS}=0\text{V}$			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		4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=10\text{A}$		40	45	m Ω
		$V_{GS}=6\text{V}, I_D=5\text{A}$		45	55	
Diode Forward Voltage	V_{SD}	$I_S=10\text{A}, V_{GS}=0\text{V}$			1.3	V
Reverse Recovery Time	t_{rr}	$I_{DS} = 4\text{A}, V_{GS} = 0\text{V}$ $di_{SD}/dt = 100\text{A}/\mu\text{s}$		72		ns
Reverse Recovery Charge	Q_{rr}			143		μC
Input Capacitance	C_{iss}	$V_{DS}=75\text{V}, V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		1232		pF
Output Capacitance	C_{oss}			81		
Reverse Transfer Capacitance	C_{rss}			32		

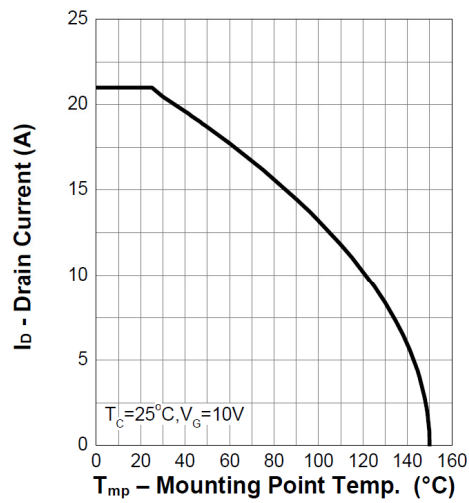
电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Total Gate Charge	Q_g	$V_{GS}=10V$ $V_{DS}=75V$ $I_D=10A$		25.8		nC
Gate Source Charge	Q_{gs}			8		
Gate Drain Charge	Q_{gd}			8.3		
Turn-On Delay Time	$t_{d(on)}$	$V_{GEN}=10V$ $V_{DS}=75V$ $I_{DS}=10A$ $R_G=4.5\Omega$ $R_L=7.5\Omega$		11		ns
Turn-On Rise Time	t_r			40		
Turn-Off Delay Time	$t_{d(off)}$			19		
Turn-Off Fall Time	t_f			32		

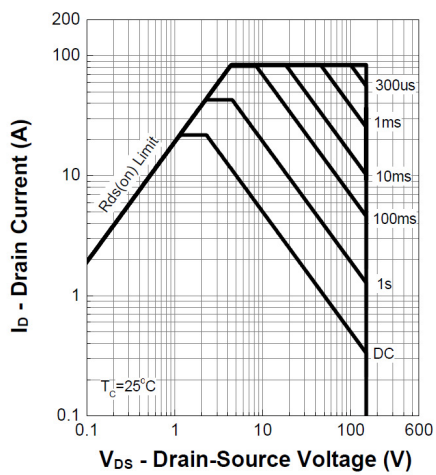
电参数曲线图 / Electrical Characteristic Curve



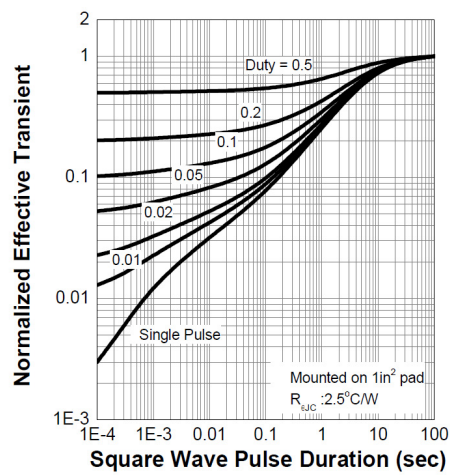
1. Power Capability



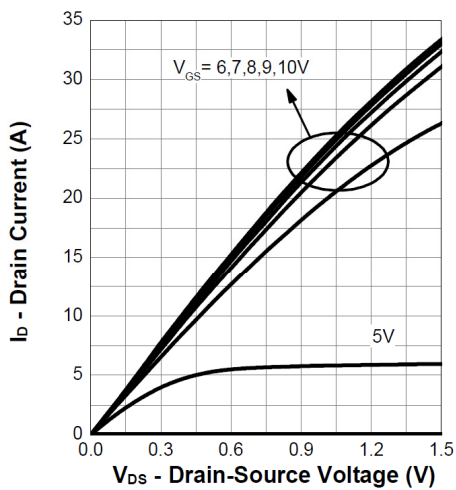
2. Current Capability



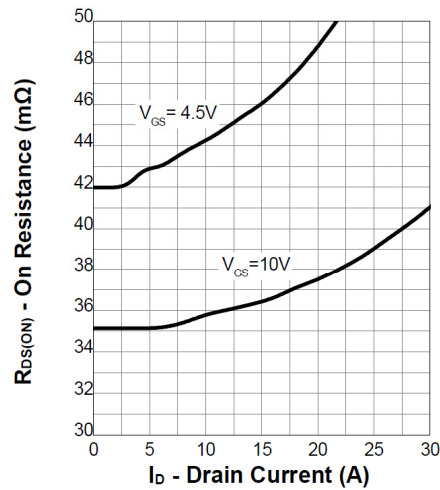
3. Safe Operating Area



4. Transient Thermal Impedance

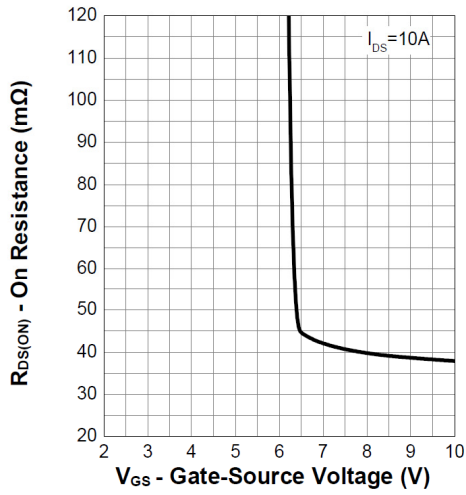


5. Output Characteristics

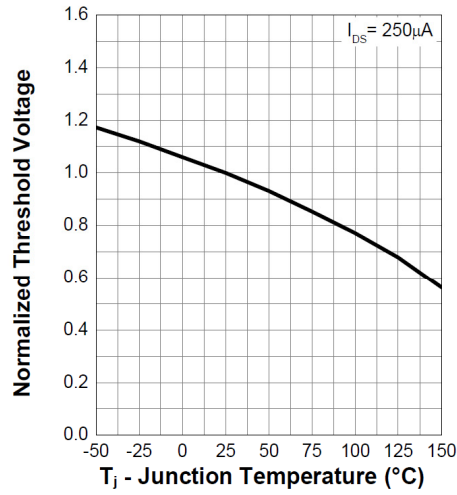


6. On Resistance

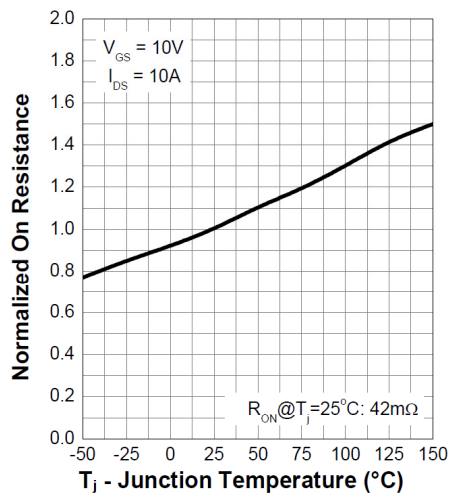
电参数曲线图 / Electrical Characteristic Curve



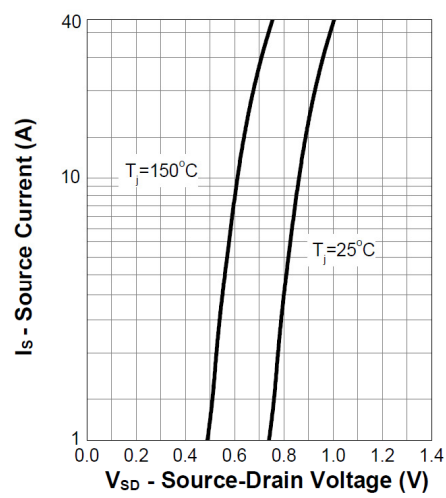
7. Transfer Characteristics



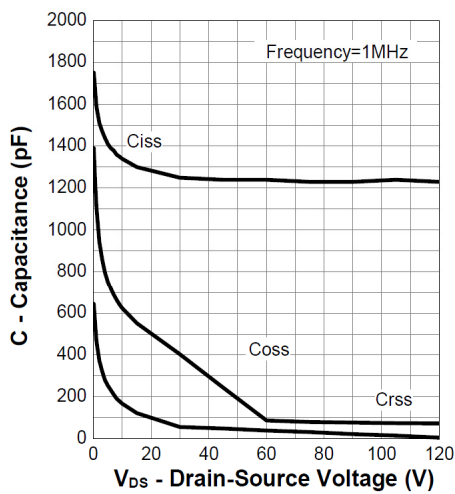
8. Normalized Threshold Voltage



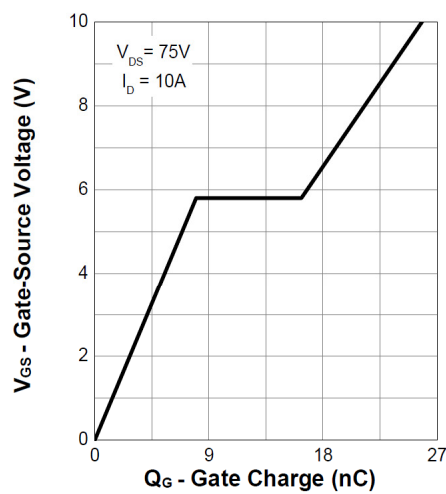
9. Normalized On Resistance



10. Diode Forward Current



11. Capacitance

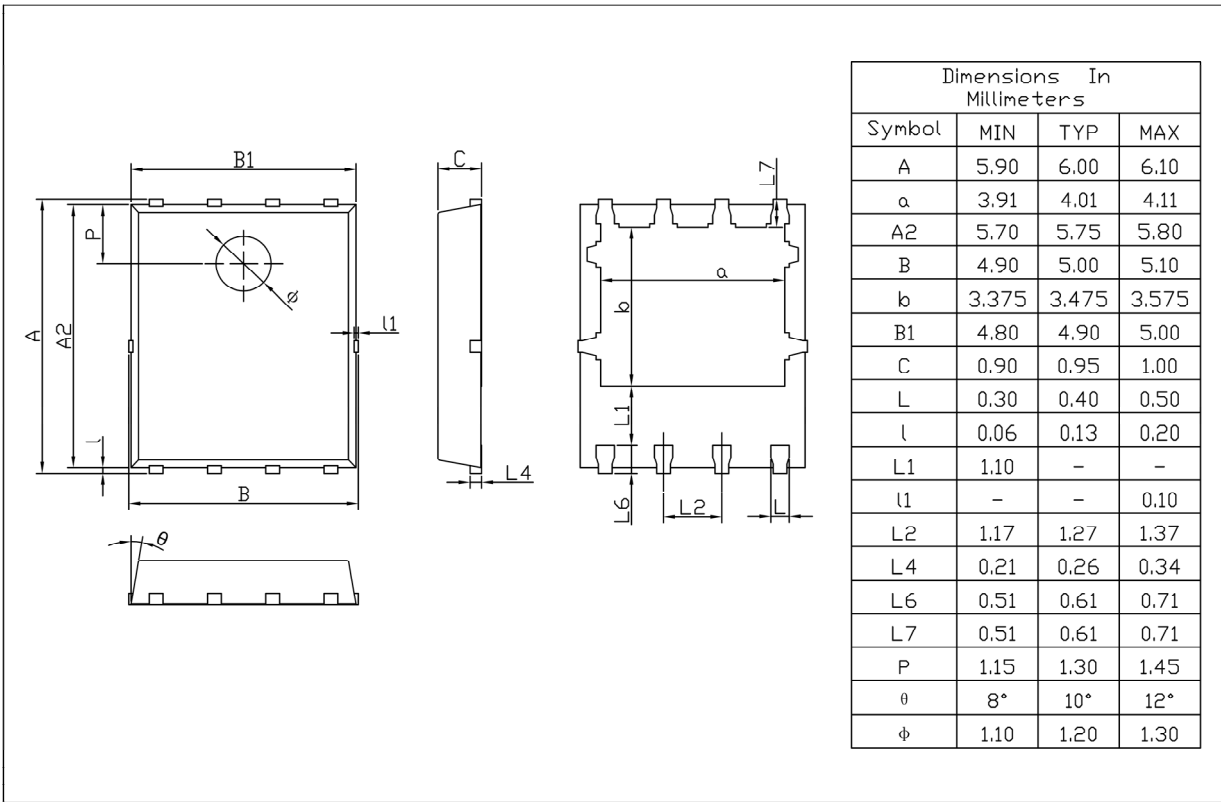


12. Gate Charge

外形尺寸图 / Package Dimensions

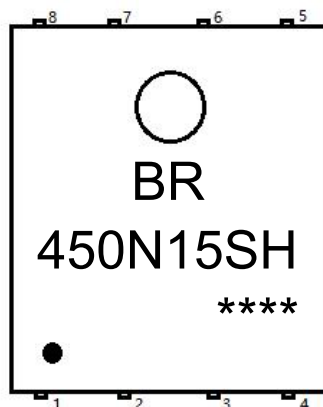
PDFN5×6

Unit:mm



Rev.01 202209

印章说明 / Marking Instructions



说明：

BR： 为公司代码

450N15SH： 为型号代码

****： 为生产批号代码，随生产批号变化

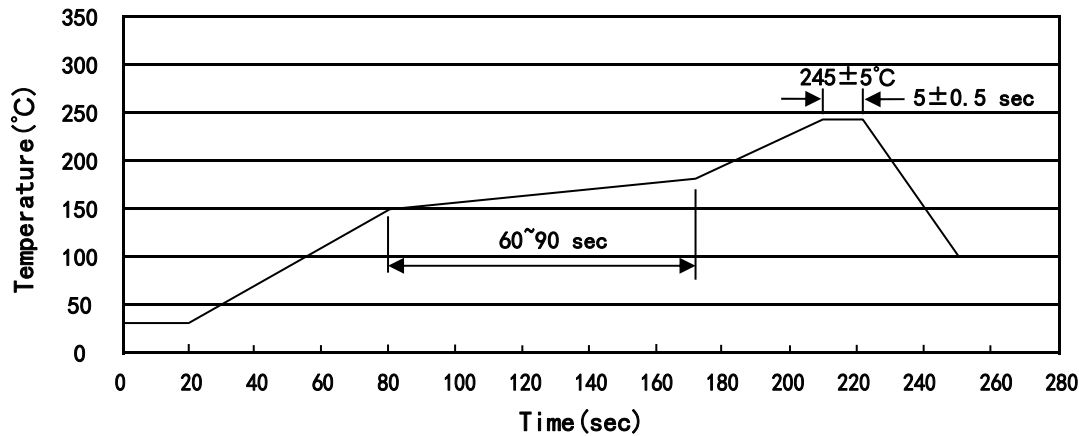
Note:

BR: Company Code

450N15SH: Product Type Code

****: Lot No. Code, code change with Lot No.

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

- 1、预热温度 150~180°C，时间 60~90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2~10°C/sec.

Note:

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

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / 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	5,000	2	10,000	6	60,000	13"×12	360×360×50	380×335×366

使用说明 / Notices

本文档中提供的所有信息均受法律免责声明的约束。

All information provided in this document is subject to legal disclaimers.