STU449S

Rev.D May.-2016

描述 / Descriptions

TO-252 塑封封装 P 沟道 MOS 场效应管。P-CHANNEL MOSFET in a TO-252 Plastic Package.

特征 / Features

具有低导通电阻的超高密度设计，可靠性好。

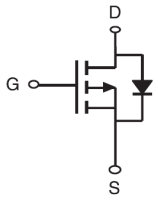
Super high dense cell design for low $R_{DS(ON),}$Rugged and reliable.

用途 / Applications

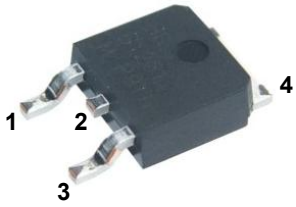
用于高功率 DC/DC 转换和功率开关。

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1：G　　PIN 2：D　　PIN 3：S　　PIN 4：D

放大及印章代码 / h_{FE} Classifications & Marking

见印章说明。See Marking Instructions.

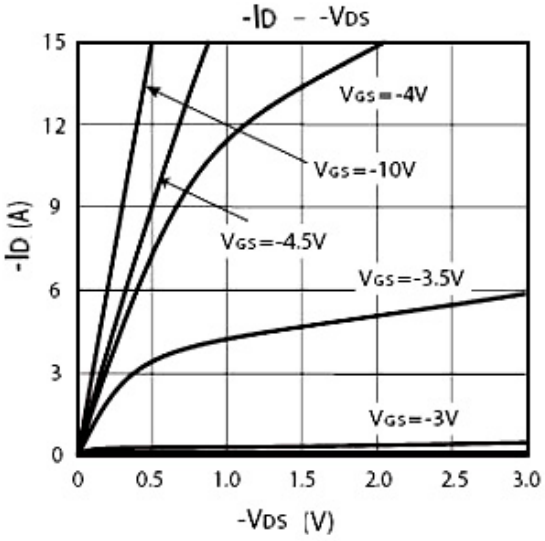
极限参数 / Absolute Maximum Ratings(Ta=25℃)

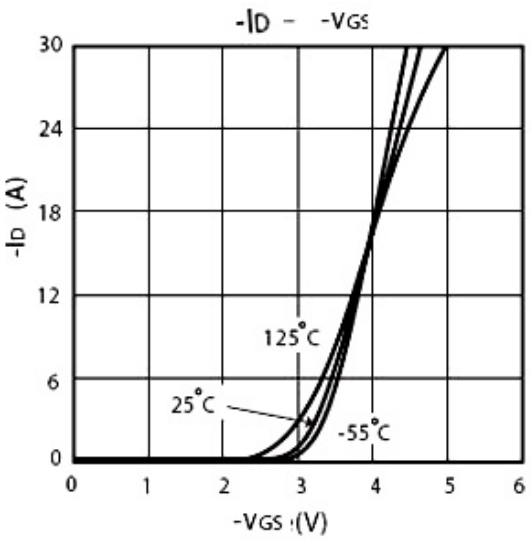
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DSS}	-40	V
Drain Current	I_D(Tc=25℃)	-24	A
Drain Current	I_D(Tc=70℃)	-19	A
Drain Current - Pulsed	I_{DM}	-73	A
Gate-Source Voltage	V_{GSS}	±20	V
Single Pulsed Avalanche Energy	E_{AS}	56	mJ
Power Dissipation	P_D(Tc=25℃)	42	W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to 150	℃

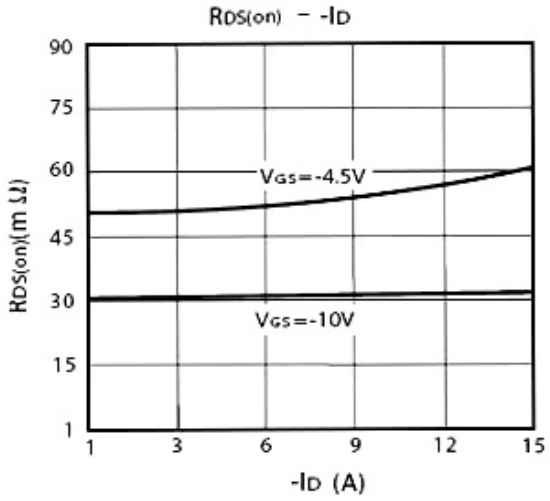
电性能参数 / Electrical Characteristics(Ta=25℃)

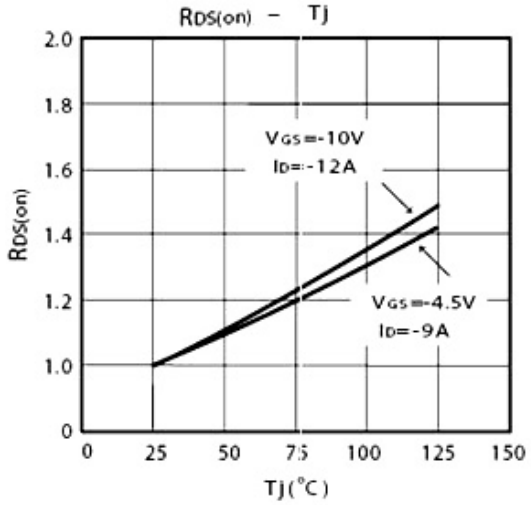
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=-250μA	-40			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=32V V_{GS}=0V			1.0	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=-250μA	-2.0	-2.5	-4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=-10V I_D=-12A		33	41	mΩ
		V_{GS}=-4.5V I_D=-9A		57	74	mΩ
Forward Transconductance	g_{FS}	V_{DS}=-10V I_D=-12A		24		S
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=-2A		-0.8	1.3	V
Input Capacitance	C_{iss}	V_{DS}=-20V V_{GS}=0V f=1.0MHz		900		pF
Output Capacitance	C_{oss}			115		
Reverse Transfer Capacitance	C_{rss}			90		
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=-20V I_D=-1.0A V_{GS}=-10V R_G=6Ω		21		ns
Turn-On Rise Time	t_r			20		
Turn-Off Delay Time	$t_{d(off)}$			51		
Turn-Off Fall Time	t_f			20		

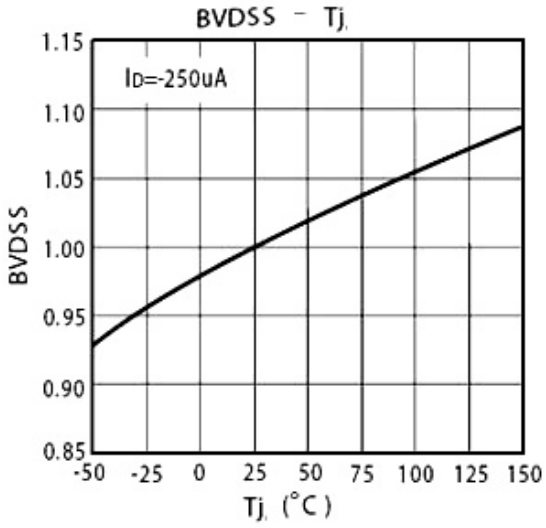
电参数曲线图 / Electrical Characteristic Curve

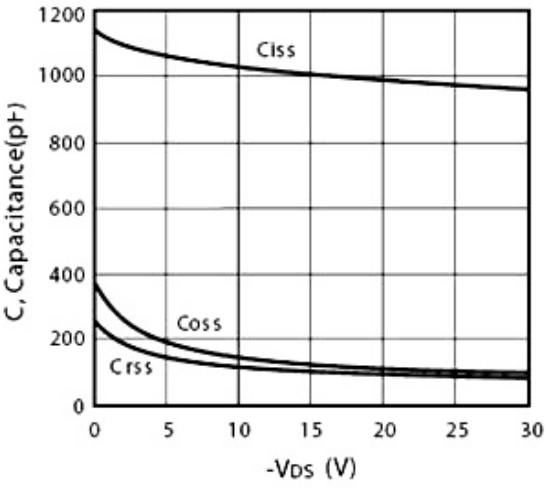




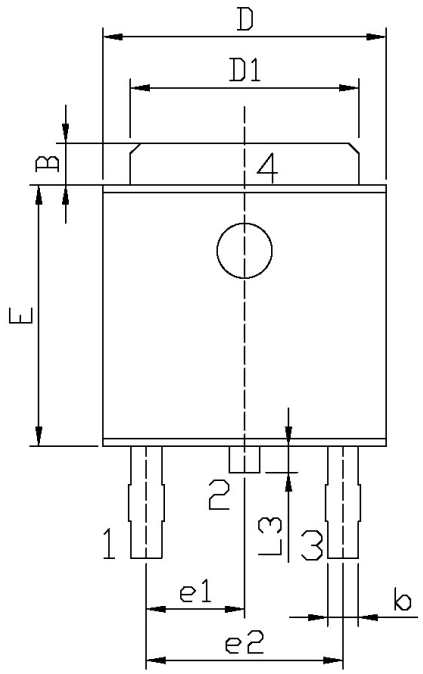


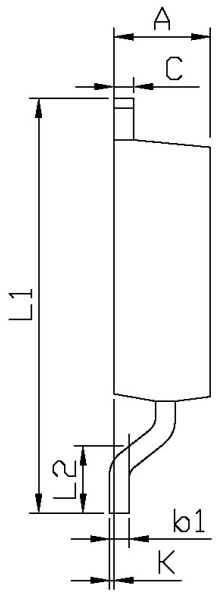






外形尺寸图 / Package Dimensions



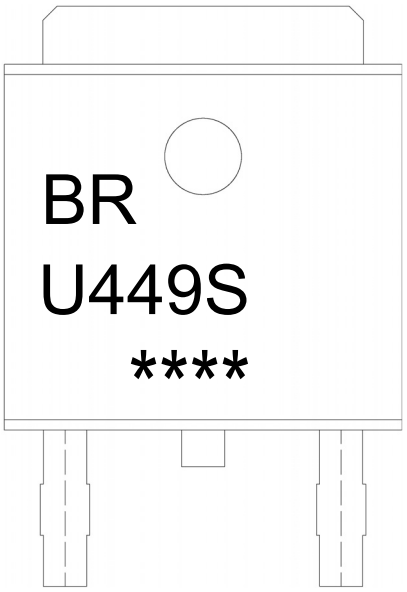


单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	2.20	2.40	E	5.95	6.25
B	0.95	1.25	e1	2.24	2.34
b	0.50	0.70	e2	4.43	4.73
b1	0.45	0.55	L1	9.45	9.95
C	0.45	0.55	L2	1.25	1.75
D	6.45	6.75	L3	0.60	0.90
D1	5.10	5.50	K	0.00	0.10

TO-252

印章说明 / Marking Instructions



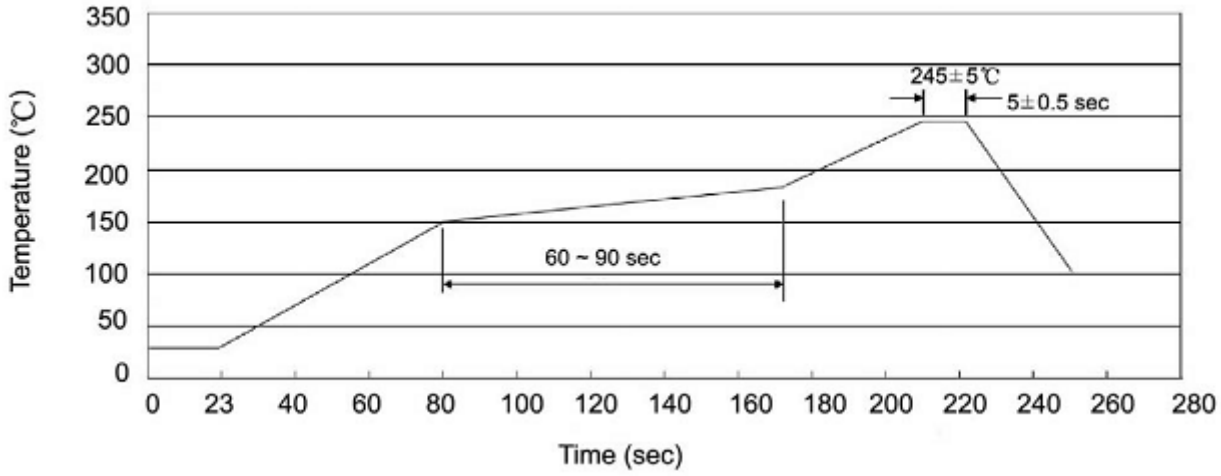
说明：

BR：	为公司代码
U449S：	为产品型号
****：	为生产批号代码，随生产批号变化。

Note:

BR:	Company Code
U449S:	Product Type.
****:	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 25～150℃，时间 60～90sec;

2、峰值温度 245±5℃，时间持续为 5±0.5sec;

3、焊接制程冷却速度为 2～10℃/sec.

Note:

1.Preheating:25~150℃, Time:60~90sec.

2.Peak Temp.:245±5℃, Duration:5±0.5sec.

3. Cooling Speed: 2~10℃/sec.

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

温度：260±5℃　　时间：10±1 sec.　　Temp.:260±5℃　　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
TO-252	2,500	2	5,000	5	25,000	13″ ×16	360×360×50	385×257×392

套管包装 / TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm^3)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

使用说明 / Notices