

TO-252 塑封封装 N 沟道场效应管。

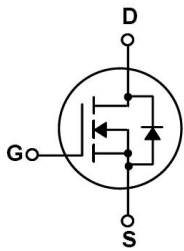
N-CHANNEL MOSFET in a TO-252 Plastic Package.

$R_{DS(on)}$ 小, 门电荷低, C_{rss} 小, 开关速度快, 无卤产品。

Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching, Halogen-free Product.

用于低压电路如: 汽车电路、DC/DC 转换、便携式产品的电源高效转换。

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.



PIN1 : G

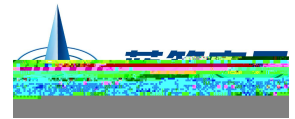
PIN 2 : D

PIN 3 : S

PIN 4 : D

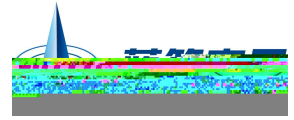
见印章说明。

See Marking Instructions.



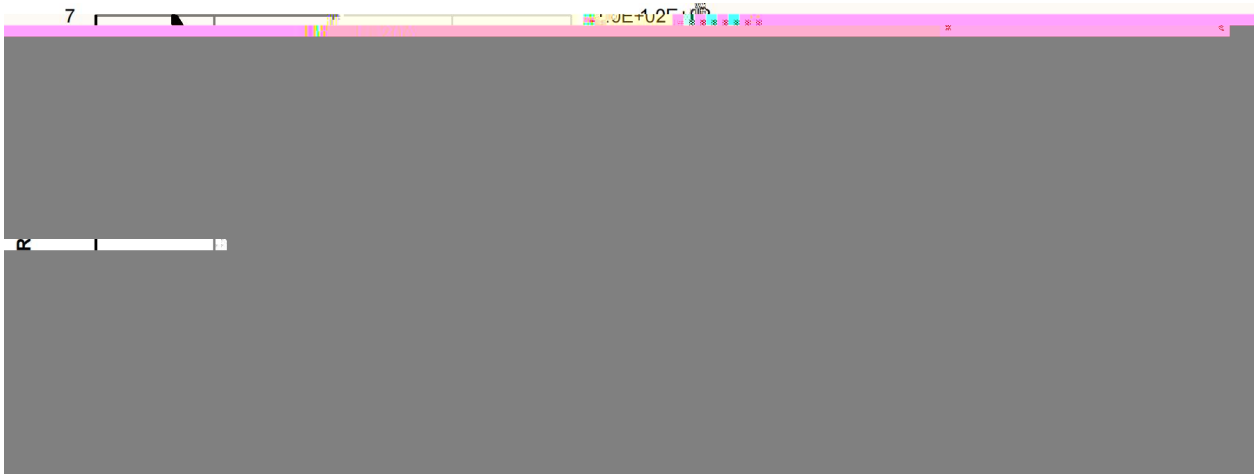
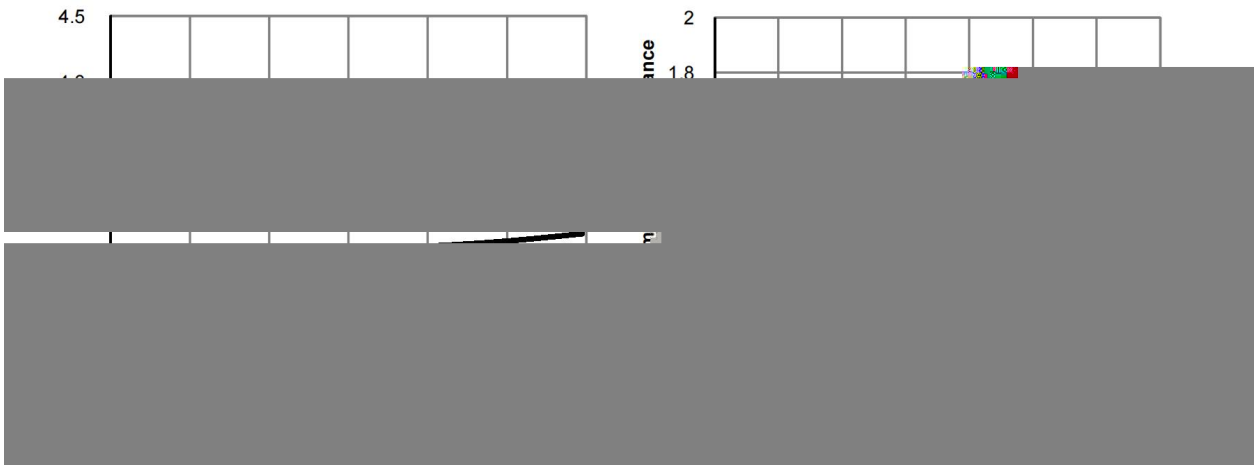
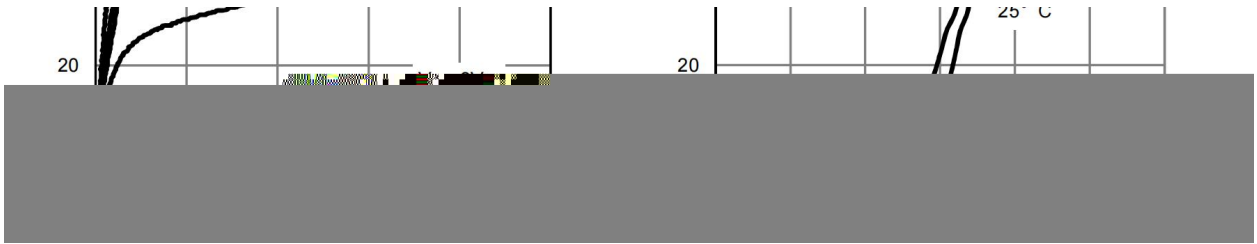
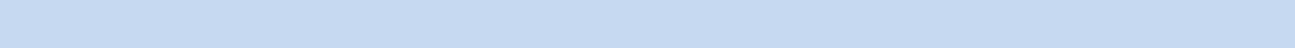
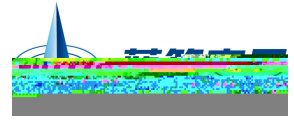
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DSS}	60	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	70	A
Drain Current - Pulsed	I_{DM}	280	A
Gate-Source Voltage	V_{GS}	± 20	V
Avalanche Current	I_{AS}	44	A
Single Pulsed Avalanche Energy(L=0.5mH)	E_{AS}	677.6	mJ
Power Dissipation	$P_D(T_C=25^\circ\text{C})$	113	W
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	$^\circ\text{C/W}$
	Steady-State		
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	1.1

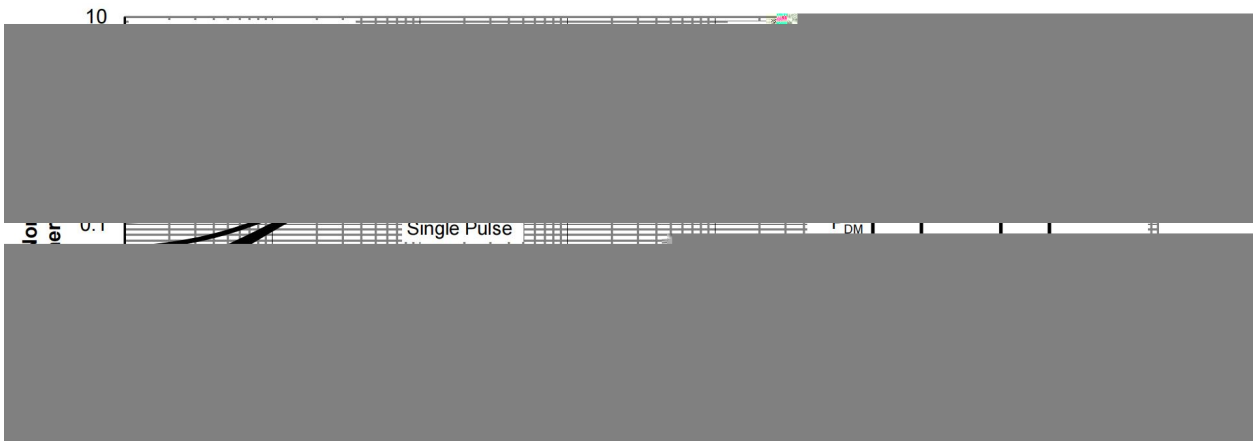
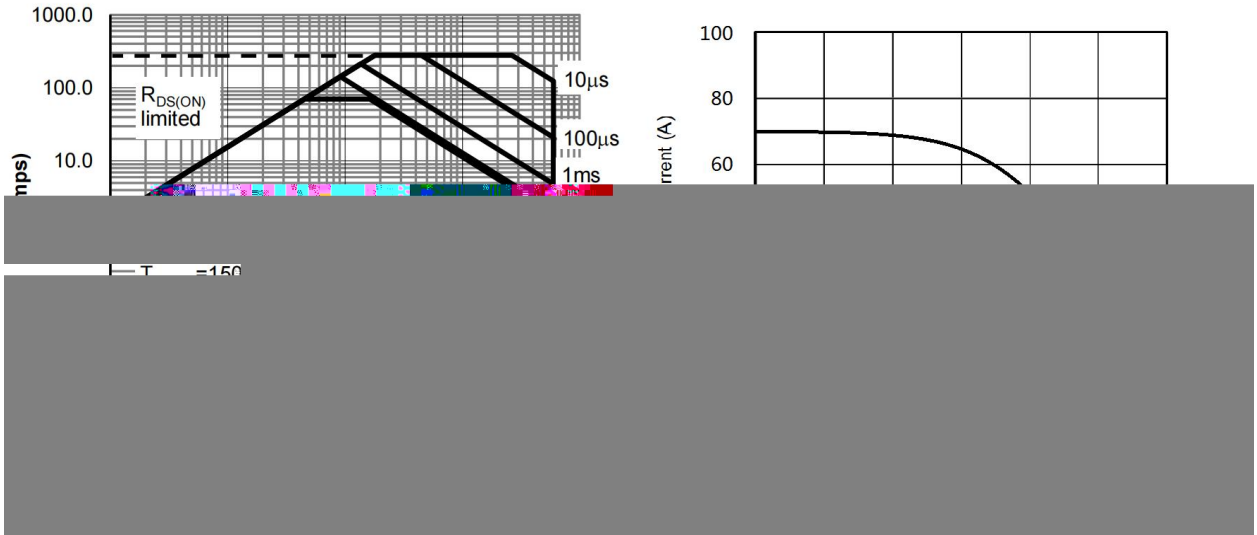
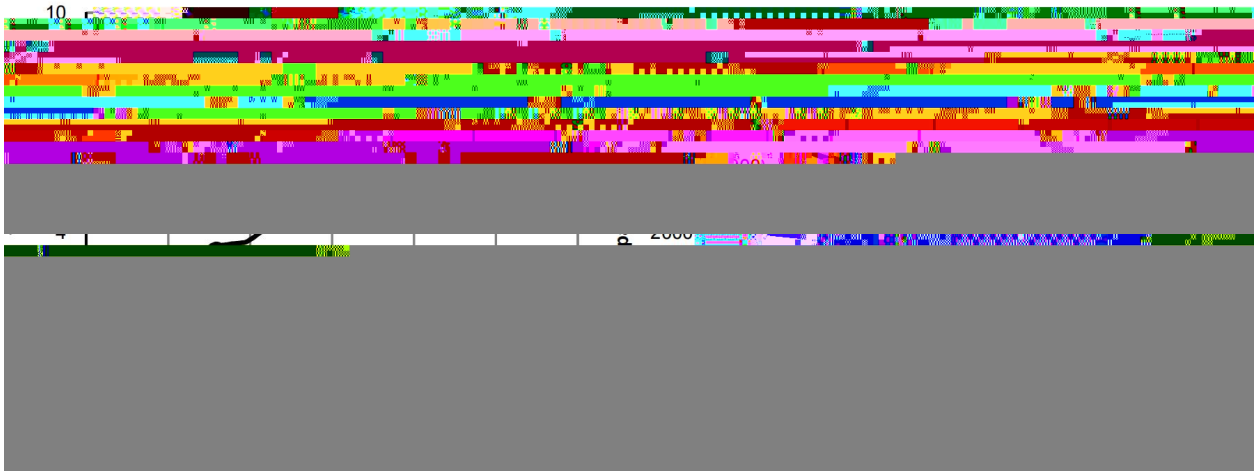
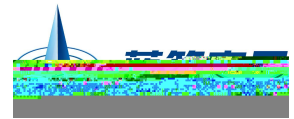
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu\text{A}$	60	68		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V$ $V_{GS}=0V$			1.0	μA
		$V_{DS}=48V$ $T_C=150^\circ\text{C}$			10	
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu\text{A}$	1.0	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=20A$		2.9	3.5	m Ω
		$V_{GS}=4.5V$ $I_D=10A$		3.7	5.0	
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$			1.2	V
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V,$ $f=1\text{MHz}$		1.0		Ω
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0\text{MHz}$		3450		pF
Output Capacitance	C_{oss}			1700		
Reverse Transfer Capacitance	C_{rss}			100		
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V,$ $V_{DS}=30V,$ $I_D=20A$		60		nC
Total Gate Charge	$Q_{g(4.5V)}$			23		
Gate Source Charge	Q_{gs}			16		
Gate Drain Charge	Q_{gd}			3		

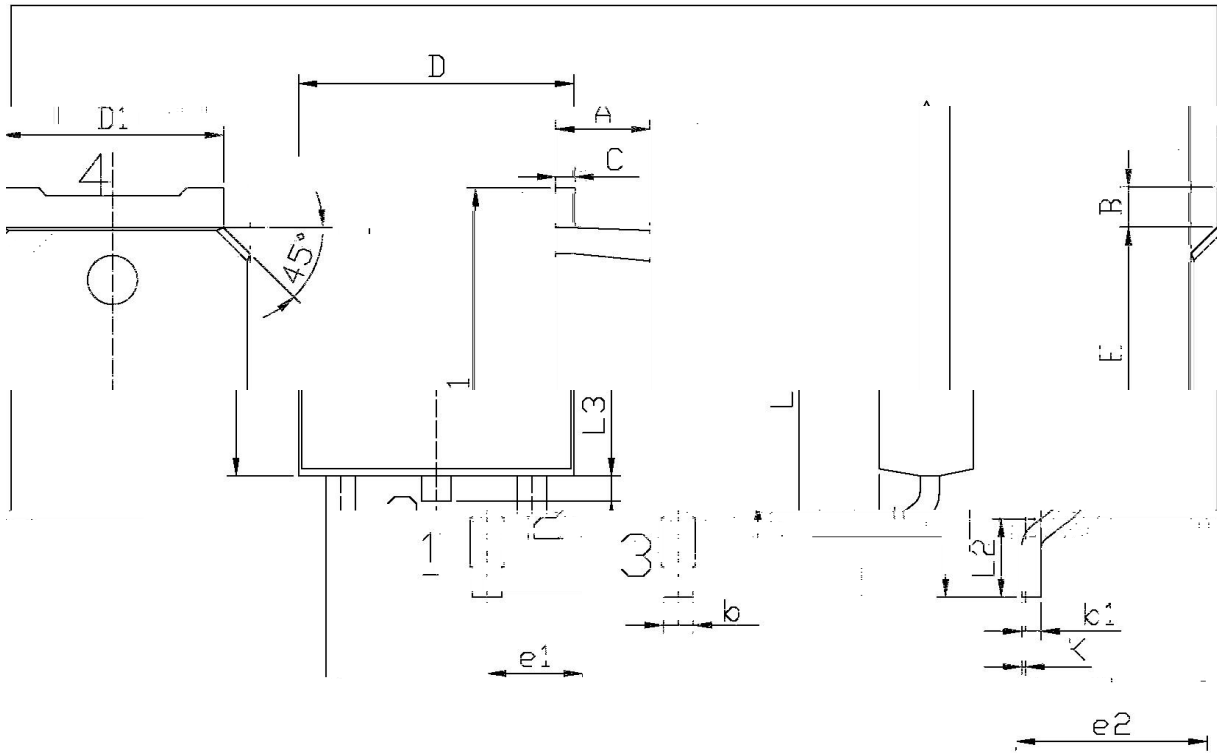
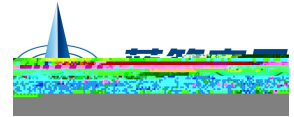


参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=30V$ $R_L=1.5\Omega$ $R_{GEN}=3\Omega$		13		ns
Turn-On Rise Time	t_r			4		
Turn-Off Delay Time	$t_{d(off)}$			47		
Turn-Off Fall Time	t_f			6.5		

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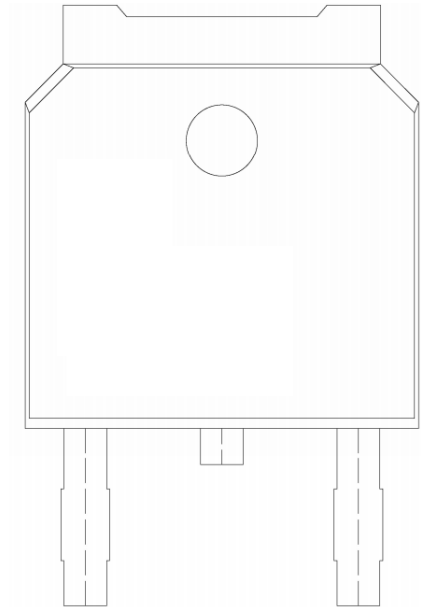
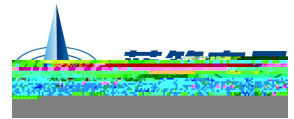




单位: mm

Dimension in Millimeter			Dimension in Millimeter		
Symbol	Max	Min	Symbol	Max	Min
E	5.95	6.25	A	2.20	2.40
e1	2.24	2.34	B	0.95	1.10
e2	4.43	4.63	D	6.45	6.75
L3	0.60	0.90	b1	10.35	12.00
L2	0.55	0.85	C	0.45	0.55
L1	0.35	0.50	b	5.10	5.70

T0-252



说明：

BR： 为公司代码

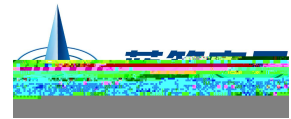
035N06S： 为型号代码

****： 为生产批号代码，随生产批号变化。

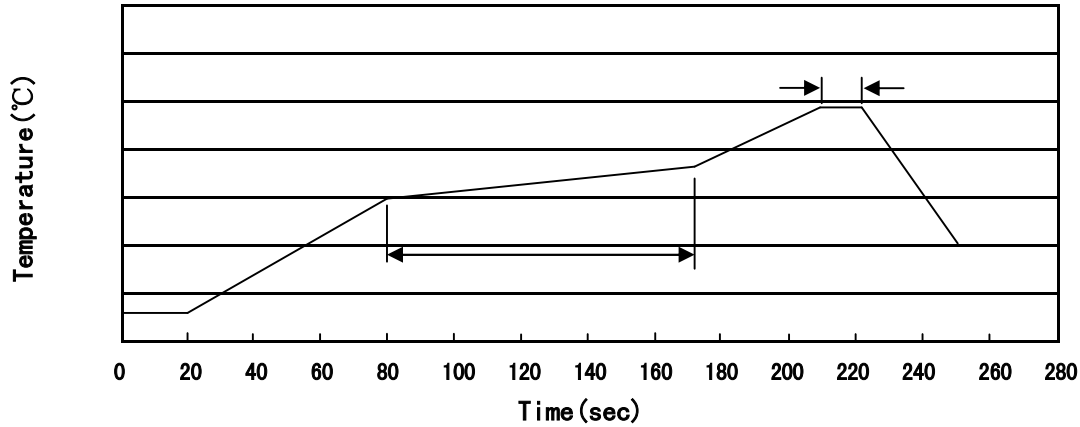
Note:

BR: Company Code

035N06S: Product Type Code.



Temperature Profile for IR Reflow Soldering(Pb-Free)



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.

260±5

10±1 sec.

Temp.:260±5°C

Time:10±1 sec

/ 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	6	30,000	13" ×16	360×360×50	380×335×366

/ 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