

CS310N4A

主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	3.0A
V_{DRM}	800V
V_{RRM}	800V
I_{GT}	10mA

用途

- 交流开关
- 相位控制

产品特性

- 玻璃钝化芯片, 高可靠性和一致性
- 低通态电流和高浪涌电流能力
- 环保 RoHS 产品

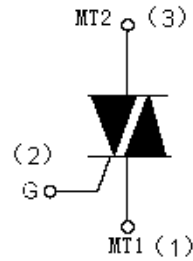
APPLICATIONS

- AC switching
- Phase control

FEATURES

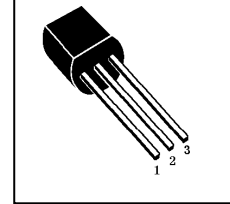
- Glass-passivated mesa chip for reliability and uniform
- Low on-state voltage and High I_{TSM}
- RoHS products

封装 Package



序号 Pin	引线名称 Description
1	主电极 1 MT1
2	门极 G
3	主电极 2 MT2

T0-92





订货信息 ORDER MESSAGES

订货型号 Order codes				印 记 Marking	封 装 Package
有卤-编带弹 带盒装	无卤-编带弹带 盒装	有卤-袋装	无卤-袋装		
Halogen-Tape	Halogen-Free -Tape	Halogen-Bag	Halogen-Free-Bag		
CS310N4A-T-E	CS310N4A-T-ER	CS310N4A-T-C	CS310N4A-T-CR	CS310N4A	T0-92

绝对最大额定值 ABSOLUTE RATINGS (T_c=25°C)

项 目 Parameter	符 号 Symbol	试 验 条 件 Condition	数 值 Value	单 位 Unit
存储温度 Storage temperature range	T _{stg}		-40~150	°C
操作结温 Operation junction temperature range	T _j		-40~125	°C
重复峰值断态电压 Repetitive peak off-state voltage (T _j =25°C,)	V _{DRM}		800	V
重复峰值反向电压 Repetitive peak Reverse voltage (T _j =25°C,)	V _{RRM}		800	V
通态方均根电流 On-state RMS current	I _{T(RMS)}	full sine wave	3.0	A
非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current	I _{TSM}	full sine wave, t=20ms (F=50HZ)	25	A
I ² t value for Fusing	I ² t	t=10ms	3.1	A ² s
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	dI/dt	I _{TM} =4.5A, I _G =0.2A, dI _G /dt=0.2A/μs	50	A/μs
峰值门极电流 Peak gate current	I _{GM}		4	A
峰值门极功率 Peak gate power	P _{GM}		5	W
平均门极功率 Average gate power	P _{G(AV)}		1	W
峰值门极电压 Peak gate voltage	V _{GM}		5	V



电特性 ELECTRICAL CHARACTERISTIC (T_c=25°C)

项 目 Parameter	符 号 Symbol	测 试 条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
重复峰值断态电流 Repetitive Peak off-state Current	I _{DRM}	V _{DM} =V _{DRM} , T _j =125°C, gate open	-	-	1.0	mA
		V _{DM} =V _{DRM} , T _j =25°C, gate open	-	-	5	uA
重复峰值反向电流 Repetitive peak Reverse Current	I _{RRM}	V _{RM} =V _{RRM} , T _j =125°C, gate open	-	-	1.0	mA
		V _{RM} =V _{RRM} , T _j =25°C, gate open	-	-	5	uA
峰值通态电压 Peak on-state voltage	V _{TM}	I _{TM} =4.5A, T _c =25°C, t _P =380us	-	-	1.5	V
门极触发电压 Gate trigger voltage	V _{GT}	V _{DM} =12V, R _L =100 Ω	-	-	1.5	V
CS310N4A						
项 目 Parameter	符 号 Symbol	测 试 条 件 Condition	CS310N4A			单位 Unit
门极触发电流 Gate trigger current	I _{GT}	V _{DM} =12V, R _L =100 Ω	MT1 (-), MT2 (+), G (+)	Max	10	mA
			MT1 (-), MT2 (+), G (-)	Max	10	mA
			MT1 (+), MT2 (-), G (-)	Max	10	mA
			MT1 (+), MT2 (-), G (+)	Max	15	mA
维持电流 Holding current	I _H	V _{DM} =12V, I _{GT} =0.1A	Max	15	mA	
擎住电流 Latching current	I _L	V _{DM} =12V, I _{GT} =0.1A	Max	30	mA	
断态临界电压上升率 Rise of off- state voltage	dV/dt	V _{DM} =540V, T _j =125°C, gate open	MIN	50	V/ μ s	
换向电压上升率 Critical rate of change of commutating voltage	(dV/dt) _c	V _{DM} =400V, T _j =125°C, (dV/dt) _c =-0.5A/ms	MIN	5	V/ μ s	

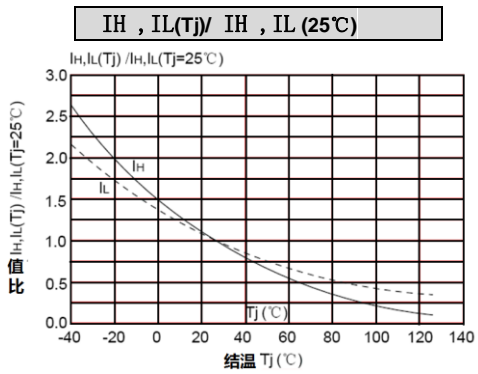
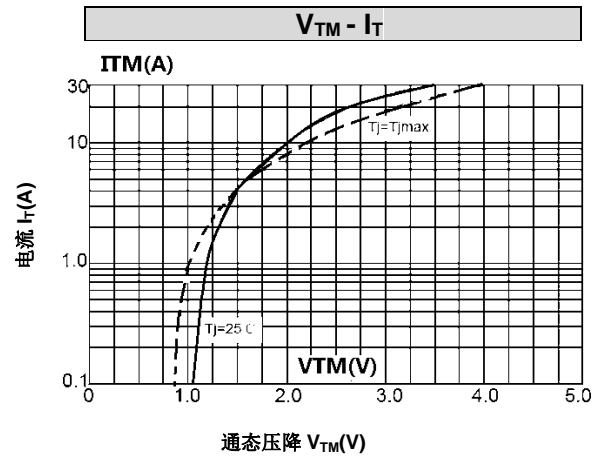
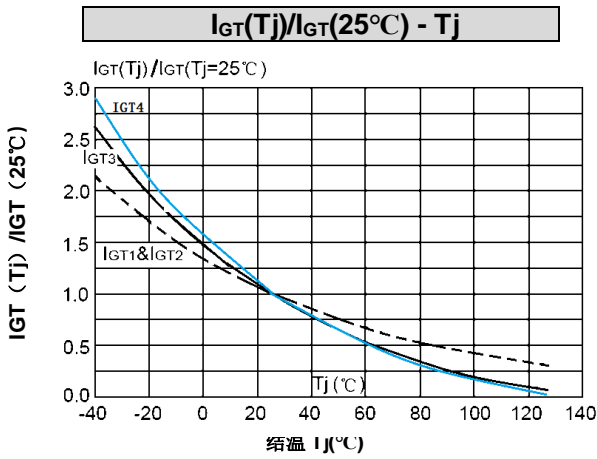
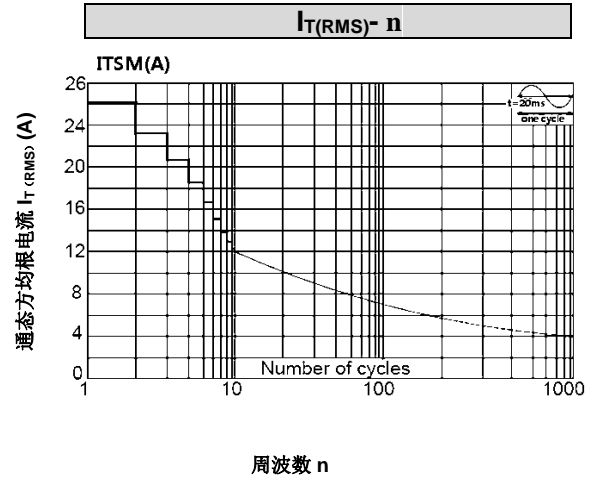
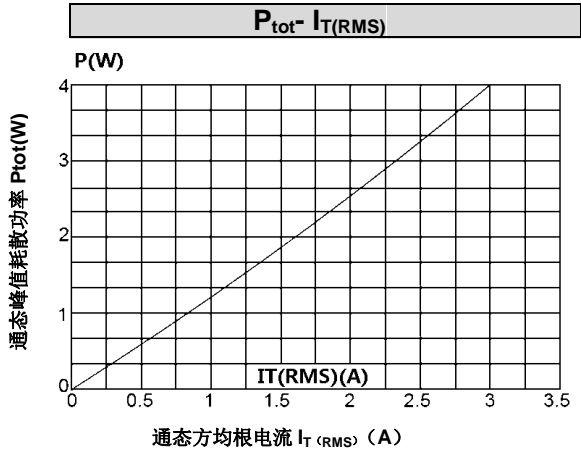
热特性 THERMAL CHARACTERISTIC

项 目 Parameter	符 号 Symbol	条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
结到引线的热阻 Thermal resistance junction to lead	R _{th(j-l)}	full cycle (T ₀ -92)	-	-	60	°C/W





特征曲线 ELECTRICAL CHARACTERISTICS (curves)

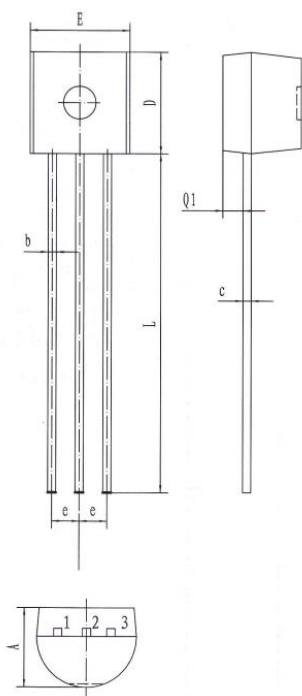




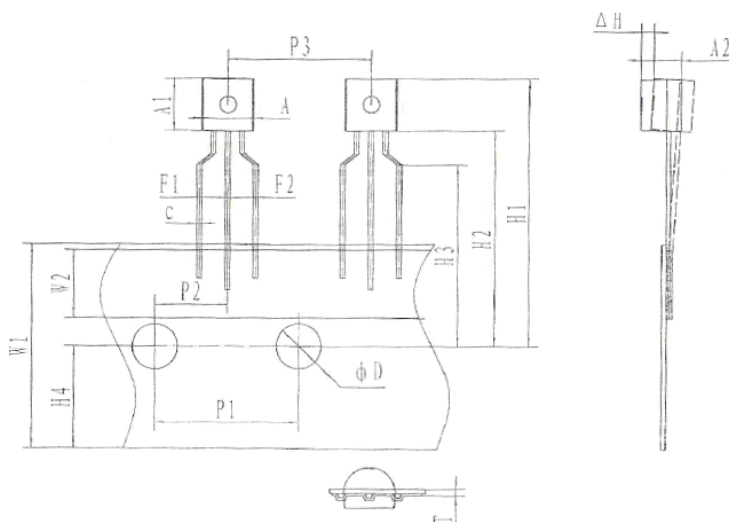
外形尺寸 PACKAGE MECHANICAL DATA

TO-92

单位 Unit : mm



符号 Symbol	尺寸 (mm) Size (mm)
A	3.30-3.90
b	0.35-0.55
c	0.31-0.51
D	4.30-4.90
E	4.30-4.90
e	1.17-1.37
L	12.50-15.50
Q1	0.85-1.00



符号 Symbol	尺寸 (mm) Size (mm)
A	4.50-4.70
A1	4.50-4.70
A2	3.50-3.70
c	TYP 0.45
F1/F2	2.20-2.80
W1	17.5-18.5
W2	5.50-6.50
H1	22.0-27.0
H2	18.0-20.0
H3	15.0-17.0
H4	8.50-9.50
P1	12.5-12.9
P2	6.00-6.70
P3	12.5-12.9
T	0.40-0.45
ϕD	3.80-4.20
ΔH	0.00-1.00



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3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
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