

CS825N3C

主要参数 MAIN CHARACTERISTICS

$I_T(\text{RMS})$	8A
V_{DRM}	800V
I_{GT}	45mA

用途

- 交流开关
- 相位控制

APPLICATIONS

- AC switching
- Phase control

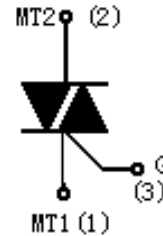
产品特性

- 玻璃钝化芯片，高可靠性和一致性
- 三象限可控硅，触发电流的一致性好
- 环保 RoHS 产品

FEATURES

- Glass-passivated mesa chip for reliability and uniform
- Uniform gate trigger currents in three quadrants
- RoHS products

封装 Package



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



订货信息 ORDER MESSAGES

订货型号 Order codes		订货型号 Order codes	订货型号 Order codes
无卤-编带	有卤-编带	CS825N3C	DPAK
Halogen-Free- Reel	Halogen-Reel		
CS825N3C-R-AR	CS825N3C-R-A		

概述 GENERAL DESCRIPTION

CS825N3C是玻璃钝化芯片结构的三象限双向晶闸管，产品在第四象限不可触发，具有较高的使用可靠性。可适用于容易出现较高 dV/dt 或 dI/dt 的交流全波控制线路中，特别推荐应用与电感性负载控制（如电机控制线路）。器件封装形式有DPAK。

CS825N3C are Glass passivated three quadrant triacs, designed for high performance full-wave ac control applications where high static and dynamic dV/dt and high dI/dt can occur. They are specially recommended for use on inductive loads such as motor control circuits. Available packages are DPAK.

绝对最大额定值 ABSOLUTE RATINGS (T_c=25℃)

项 目 Parameter	符 号 Symbol	试 验 条 件 Condition	数 值 Value	单 位 Unit
重复峰值断态电压 Repetitive peak off-state voltage	V _{DRM}		±800	V
通态方均根电流 On-state RMS current	I _{T(RMS)}	full sine wave	8	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	80	A
		full sine wave ,t=16.7ms	84	A
		t=10ms	32	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} =12A, I _G =0.2A, di _G /dt=0.2A/μs	100	A/μs
峰值门极电流 Peak gate current	I _{GM}		4	A
峰值门极电压 Peak gate voltage	V _{GM}		5	V
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)}	over any 20ms period	0.5	W
存储温度 Storage temperature	T _{stg}		-40~150	℃
操作结温 Operation junction temperature	T _{VJ}		125	℃

电特性 ELECTRICAL CHARACTERISTIC (T_c=25°C)

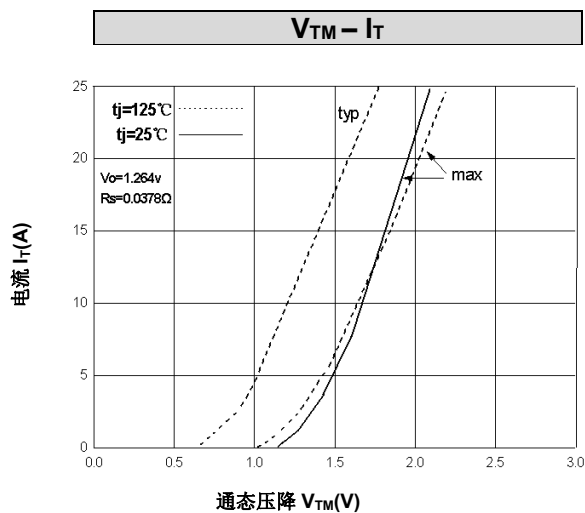
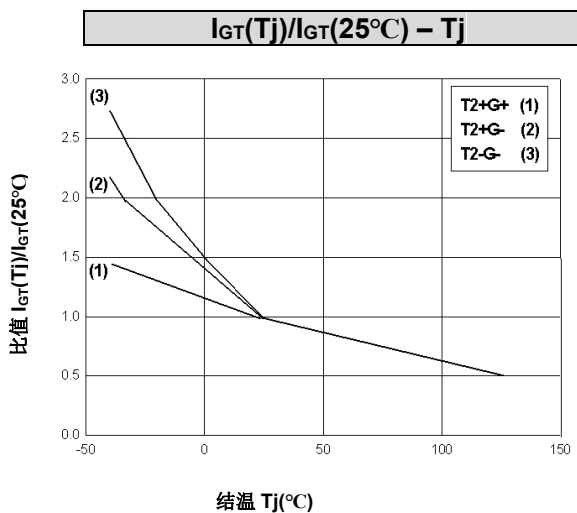
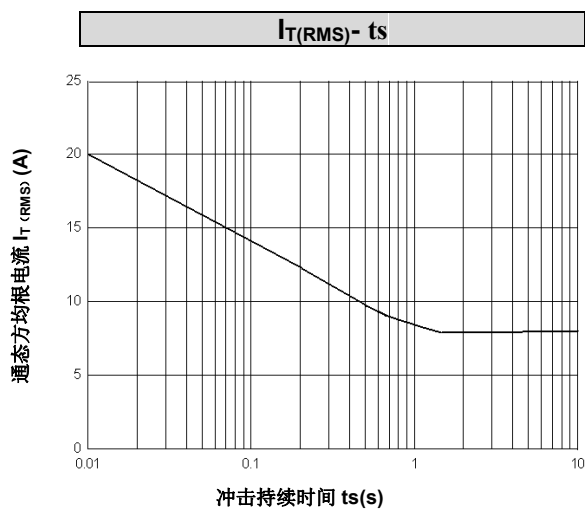
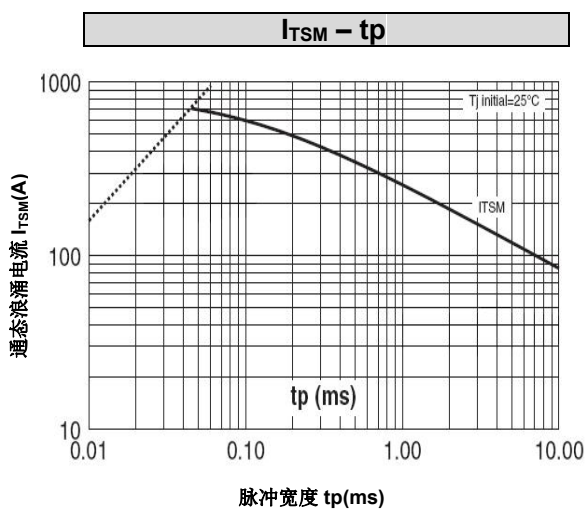
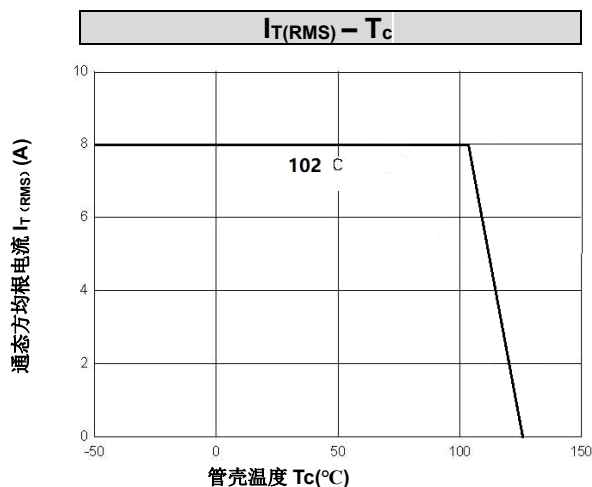
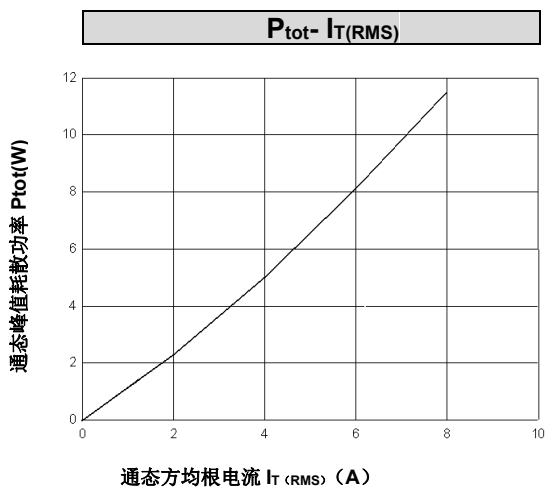
项 目 Parameter	符 号 Symbol	测 试 条 件 Condition	最小 Min	典型 Typ	最大 Max	单 位 Unit
峰值重复断态电流 Peak Repetitive Blocking Current	I _{DRM}	V _{DM} =V _{DRM} , T _j =125°C, gate open	-	-	0.5	mA
峰值通态电压 Peak on-state voltage	V _{TM}	I _{TM} =11.3A	-	1.3	1.7	V
门极触发电流 Gate trigger current	I _{GT}	V _{DM} =12V, R _L =100 Ω, MT1(-),MT2(+),G(+)	8	-	45	mA
		MT1(-),MT2(+),G(-)	8	-	45	mA
		MT1(+),MT2(-),G(-)	15	-	45	mA
门极触发电压 Gate trigger voltage	V _{GT}	V _{DM} =12V, R _L =100 Ω, MT1(-),MT2(+),G(+)	0.7	-	1.5	V
		MT1(-),MT2(+),G(-)	0.7	-	1.5	V
		MT1(+),MT2(-),G(-)	0.7	-	1.5	V
维持电流 Holding current	I _H	V _{DM} =12V, I _{GT} =0.1A	-	-	60	mA
擎住电流 Latching current	I _L	V _{DM} =12V, I _{GT} =0.1A, MT1(-),MT2(+),G(+)	-	-	80	mA
		MT1(-),MT2(+),G(-)	-	-	80	mA
		MT1(+),MT2(-),G(-)	-	-	80	mA
断态临界电压上升率 Rise of off- state voltage	dV/dt	V _{DM} =67% V _{DRM(MAX)} , T _j =125°C, gate open	1000	-	-	V/μs
门极开通时间 Gate controlled turn-on time	t _{gt}	I _{TM} =12A, V _{DM} =V _{DRM(MAX)} , I _G =0.1A, dI _G /dt=5A/μs	-	2	-	μs

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
结到管壳的热阻 Thermal resistance junction to case	R _{th(j-c)}	Full cycle			3.0	°C/W



征曲线 ELECTRICAL CHARACTERISTICS (curves)

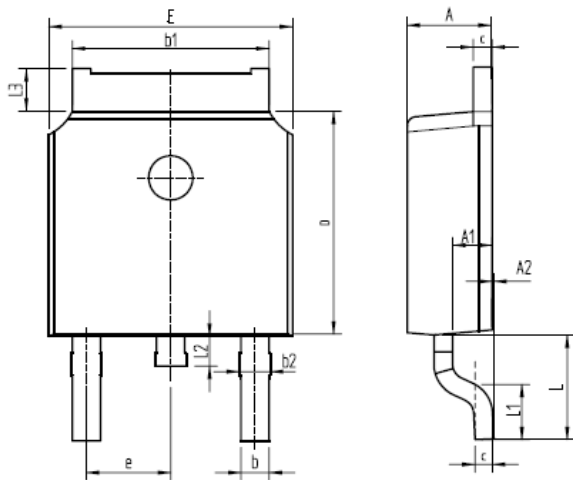




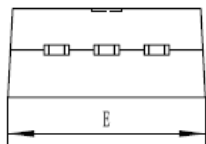
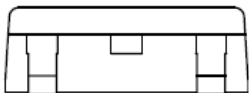
外形尺寸 PACKAGE MECHANICAL DATA

DPAK

单位 Unit : mm



SYMBOL	mm	
	MIN	MAX
A	2.16	2.41
A1	0.97	1.17
A2	0.00	0.15
b	0.63	0.93
b1	5.13	5.53
b2	0.66	0.96
c	0.40	0.60
D	5.80	6.40
E	6.30	6.90
e	2.286BSC	
L	2.50	3.30
L1	1.20	1.80
L2	0.60	1.00
L3	0.85	1.30





注意事项

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3. 在电路设计时请不要超过器件的绝对最大额定值，否则会影响整机的可靠性。
4. 本说明书如有版本变更不另外告知。

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3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
4. Jilin Sino-microelectronics co., Ltd reserves the right to make changes in this. specification sheet and is subject to change without prior notice.

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