



CD4150S3A

主要参数 MAIN CHARACTERISTICS

$I_T(\text{RMS})$	41A
V_{DRM}	1600V
I_{GT}	50mA

用途

- 交流开关
- 相位控制

APPLICATIONS

- AC switching
- Phase control

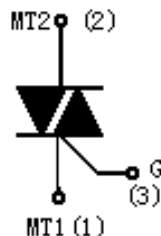
产品特性

- 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
- 环保 RoHS 产品

FEATURES

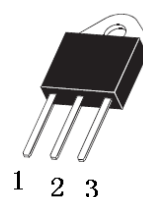
- Glass-passivated mesa chip for reliability and uniform
- Uniform gate trigger currents in three quadrants
- RoHS products

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

TOP3 (Insulated)



订货信息 ORDER MESSAGES

订货型号 Order codes				印记 Marking	封装 Package
有卤-条管	无卤-条管	有卤-袋装	无卤-袋装		
Halogen-Tube	halogen-Free-Tube	Halogen-Reel	Halogen-Free-Reel		
CD4150S3A-GF-B	CD4150S3A-GF-BR	N/A	N/A	CD4150S3A	TOP3



**概述 GENERAL DESCRIPTION**

CD4150S3A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）。器件封装形式为TOP3(引线与散热片绝缘)。

CD4150S3A 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 package is TOP3(internally isolated).

绝对最大额定值 ABSOLUTE RATINGS ($T_c=25^\circ\text{C}$)

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}		± 1600	V
通态方均根电流 On-state RMS current	$I_{T(RMS)}$	full sine wave,	41	A
非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current	I_{TSM}	full sine wave , $t=20\text{ms}$	400	A
		full sine wave , $t=16.7\text{ms}$	420	A
		I^2t	$t=10\text{ms}$	880
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	dI/dt	$I_{TM}=56\text{A}$, $I_G=0.2\text{A}$, $dI_G/dt=0.2\text{A}/\mu\text{s}$	100	$\text{A}/\mu\text{s}$
峰值门极电流 Peak gate current	I_{GM}		8	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	1.0	W
存储温度 Storage temperature	T_{stg}		-40~150	$^\circ\text{C}$
操作结温 Operation junction temperature	T_{VJ}		125	$^\circ\text{C}$

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 =25°C, gate open	-	-	10	μ A	
		V _{DM} =V _{DRM} , T _j =125°C, gate open	-	-	5.0	mA	
峰值通态电压 Peak on-state voltage	V _{TM}	I _{TM} =56A	-	-	1.6	V	
门极触发电流 Gate trigger current	I _{GT}	V _{DM} =12V, R _L =100Ω	MT1(-),MT2(+),G(+)	5	-	50	mA
			MT1(-),MT2(+),G(-)	5	-	50	mA
			MT1(+),MT2(-),G(-)	5	-	50	mA
门极触发电压 Gate trigger voltage	V _{GT}	V _{DM} =12V, R _L =100Ω	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	-	-	80	mA	
擎住电流 Latching current	I _L	V _{DM} =12V, I _{GT} =0.1A	MT1(-),MT2(+),G(+)	-	-	70	mA
			MT1(-),MT2(+),G(-)	-	-	90	mA
			MT1(+),MT2(-),G(-)	-	-	70	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/μ s	
门极开通时间 Gate controlled turn-on time	tg _t	I _{TM} =55A, V _{DM} =V _{DRM(MAX)} , I _G =0.1A, di _G /dt=5A/μ S	-	2	-	μ s	

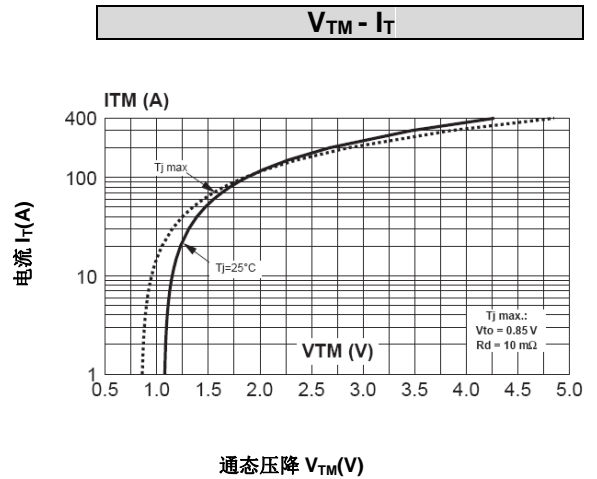
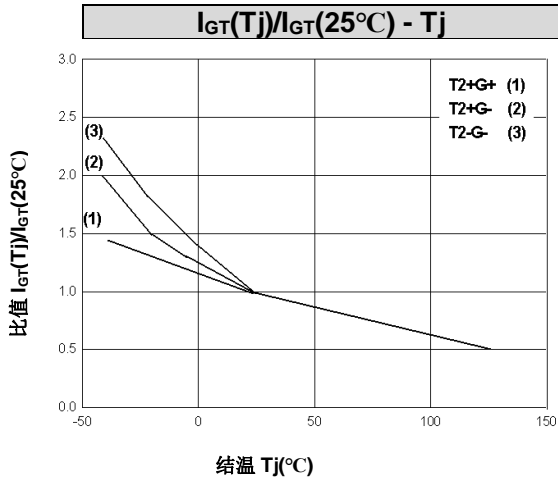
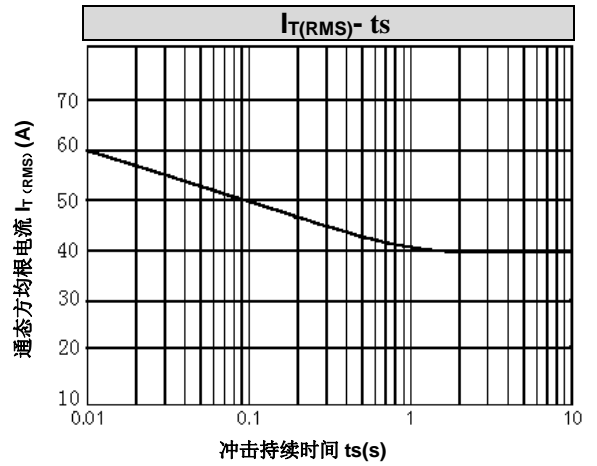
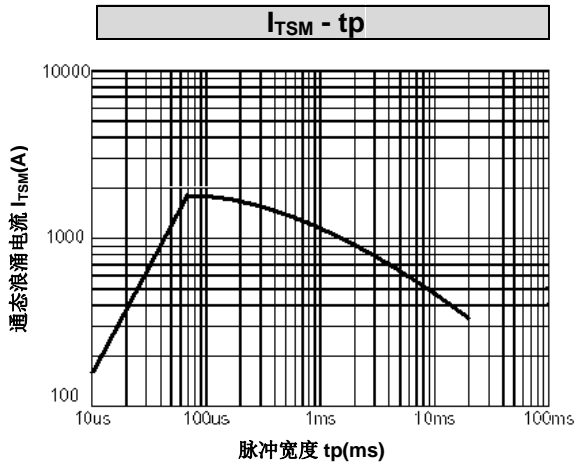
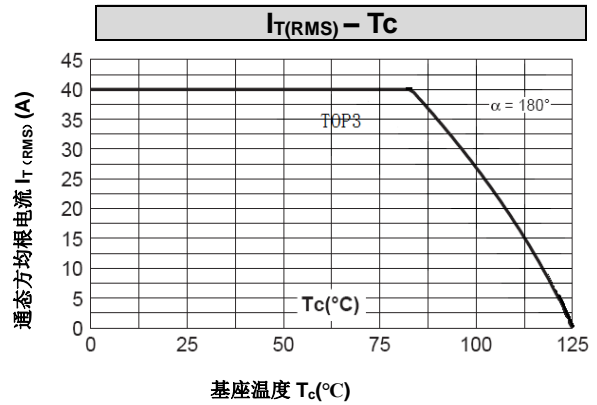
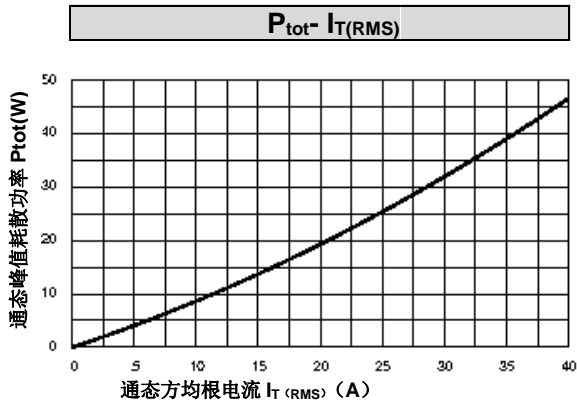
热特性 THERMAL CHARACTERISTIC

项 目 Parameter	符 号 Symbol	条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
结到管壳的热阻 Thermal resistance junction to case	R _{th(j-c)}	full cycle(TOP3)			0.9	°C/W





特征曲线 ELECTRICAL CHARACTERISTICS (curves)

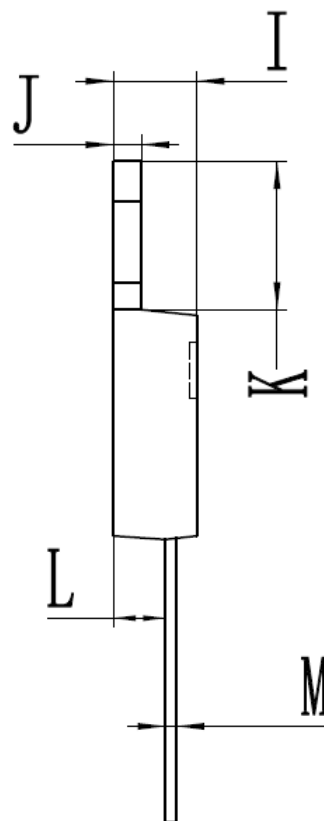
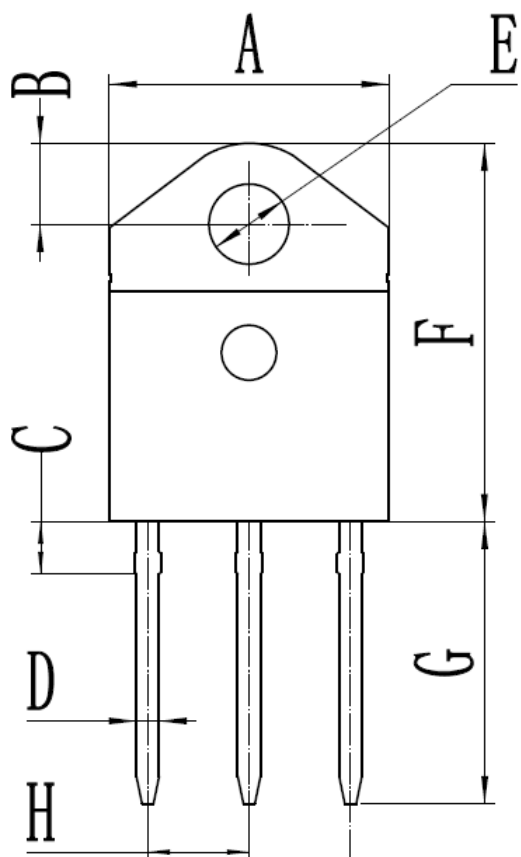




外形尺寸 PACKAGE MECHANICAL DATA

TOP3

单位 Unit : mm



SYMBOL	MM	
	MIN	MAX
A	14.80	15.45
B	4.00	4.70
C	2.45	3.25
D	1.10	1.35
E	4.10	4.35
F	20.15	20.80
G	14.95	15.60
H	5.30	5.65
I	4.35	4.70
J	1.38	1.65
K	7.80	8.25
L	2.68	3.00
M	0.50	0.75





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