

# CD2050T3A

## 主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	20A
$V_{DRM}/V_{RRM}$	1200V
$I_{GT(1,2,3)}$	<50mA

## 用途

- 交流开关
- 相位控制

## APPLICATIONS

- AC switching
- Phase control

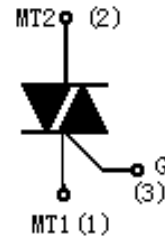
## 产品特性

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

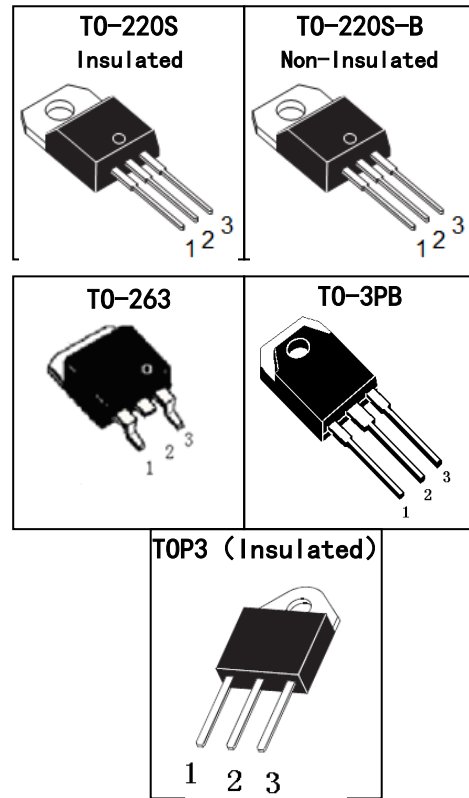
## FEATURES

- Glass-passivated mesa chip for high 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	主电极 2 MT2
3	门极 G





## 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-编带	无卤-编带		
Halogen-Tube	Halogen-Free-Tube	Halogen-Reel	Halogen-Free-Reel		
CD2050T3A-CB-B	CD2050T3A-CB-BR	N/A	N/A	CD2050T3A	T0-220S
CD2050T3A-CD-B	CD2050T3A-CD-BR	N/A	N/A	CD2050T3A	T0-220S-B
CD2050T3A-S-B	CD2050T3A-S-BR	CD2050T3A-S-A	CD2050T3A-S-AR	CD2050T3A	T0-263
CD2050T3A-GD-B	CD2050T3A-GD-BR	N/A	N/A	CD2050T3A	T0-3PB
CD2050T3A-GF-B	CD2050T3A-GF-BR	N/A	N/A	CD2050T3A	TOP3

绝对最大额定值 ABSOLUTE RATINGS (T<sub>c</sub>=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 <sub>DRM</sub>		±1200	V
通态方均根电流 On-state RMS current	I <sub>T(RMS)</sub>	full sine wave	20	A
非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current	I <sub>TSM</sub>	full sine wave ,t=20ms	200	A
		full sine wave ,t=16.7ms	210	A
I <sup>2</sup> t Value for fusing	I <sup>2</sup> t	t=10ms	200	A <sup>2</sup> s
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	di/dt	I <sub>TM</sub> =28A, I <sub>G</sub> =0.2A, di <sub>G</sub> /dt=0.2A/μs	50	A/μs
峰值门极电流 Peak gate current	I <sub>GM</sub>		4	A
峰值门极电压 Peak gate voltage	V <sub>GM</sub>		5	V
峰值门极功率 Peak gate power	P <sub>GM</sub>		10	W
平均门极功率 Average gate power	P <sub>G(AV)</sub>	over any 20ms period	1	W
存储温度 Storage temperature	T <sub>stg</sub>		-40~150	℃
操作结温 Operation junction temperature	T <sub>VJ</sub>		125	℃



电特性 ELECTRICAL CHARACTERISTIC (T<sub>c</sub>=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 <sub>DRM</sub>	V <sub>DM</sub> =V <sub>DRM</sub> , T <sub>j</sub> =125°C, gate open	-	-	3.5	mA	
峰值通态电压 Peak on-state voltage	V <sub>TM</sub>	I <sub>TM</sub> =28A, t <sub>p</sub> =380us, T <sub>j</sub> =25°C	-	-	1.65	V	
门极触发电压 Gate trigger voltage	V <sub>GT</sub>	V <sub>DM</sub> =12V, R <sub>L</sub> =100Ω	-	-	1.5	V	
门极触发电流 Gate trigger current	I <sub>GT</sub>	V <sub>DM</sub> =12V, R <sub>L</sub> =100Ω	MT1(-),MT2(+),G(+)	-	-	50	mA
			MT1(-),MT2(+),G(-)	-	-	50	mA
			MT1(+),MT2(-),G(-)	-	-	50	mA
维持电流 Holding current	I <sub>H</sub>	V <sub>DM</sub> =12V, I <sub>GT</sub> =0.1A	-	-	50	mA	
擎住电流 Latching current	I <sub>L</sub>	V <sub>DM</sub> =12V, I <sub>GT</sub> =0.1A	-	-	90	mA	
断态临界电压上升率 Rise of off- state voltage	dV/dt	V <sub>DM</sub> =67% V <sub>DRM(MAX)</sub> , T <sub>j</sub> =125°C, gate open	1000	-	-	V/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 <sub>th(j-c)</sub>	full cycle (TO-220S)			2.0	°C/W
	R <sub>th(j-c)</sub>	full cycle (TO-220S-B/TO-263)			1.2	°C/W
	R <sub>th(j-c)</sub>	full cycle (TO-3PB)			0.8	°C/W
	R <sub>th(j-c)</sub>	full cycle (TOP3)			1.2	°C/W

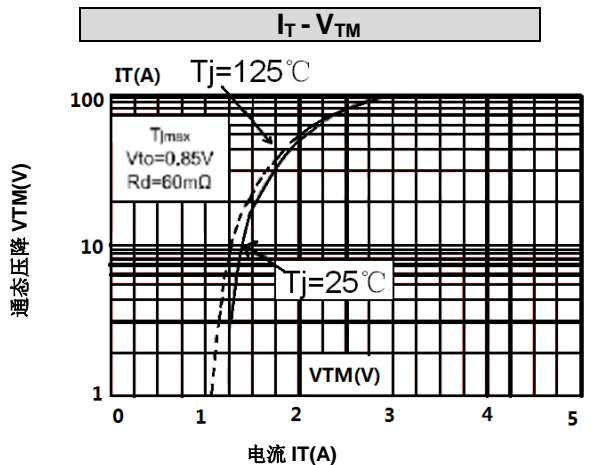
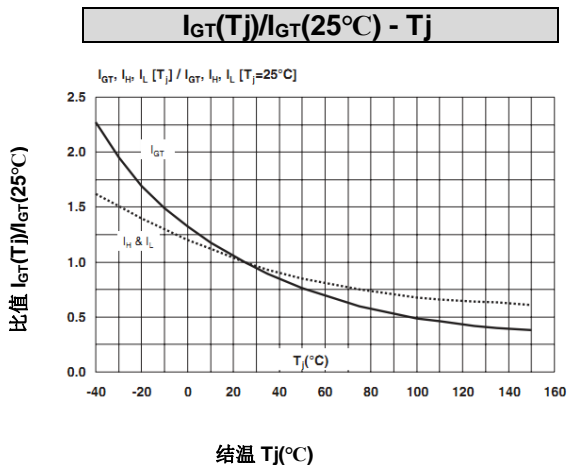
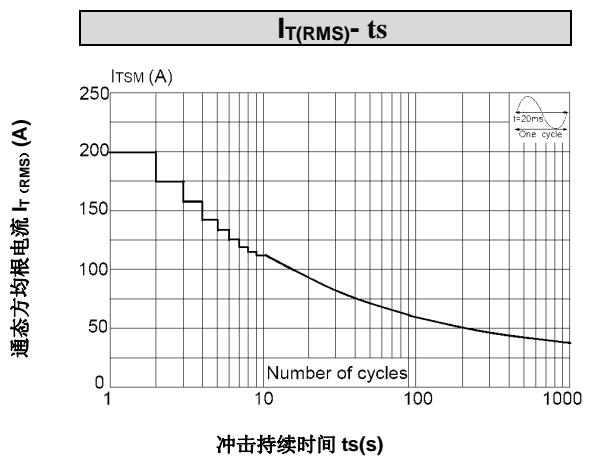
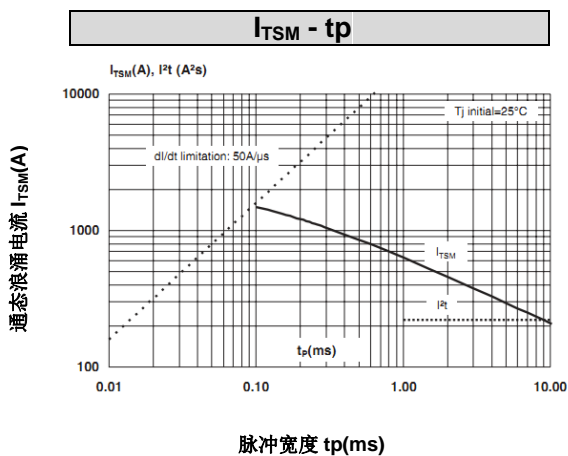
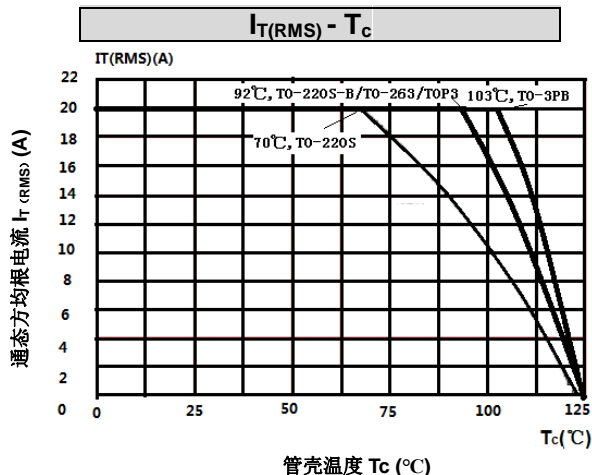
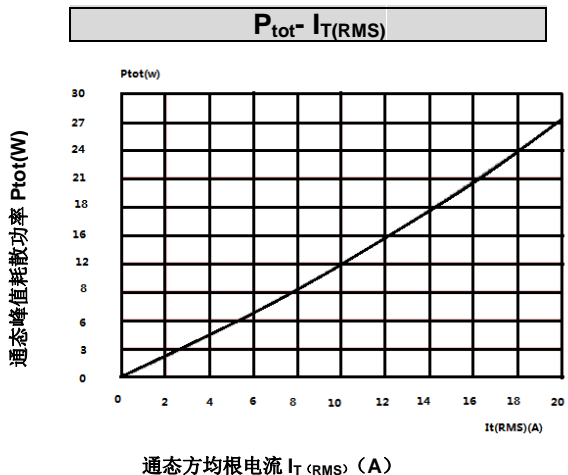
## 电绝缘特性 ELECTRICAL ISOLATION

项 目 Parameter	符 号 Symbol	条 件 Condition	数 值 Value	单 位 Unit
绝缘电压 Isolation voltage	V <sub>ISOL</sub>	1 minute, leads to mounting tab TO-220S/TO-220MF-K1	2000	V





特征曲线 ELECTRICAL CHARACTERISTICS (curves)

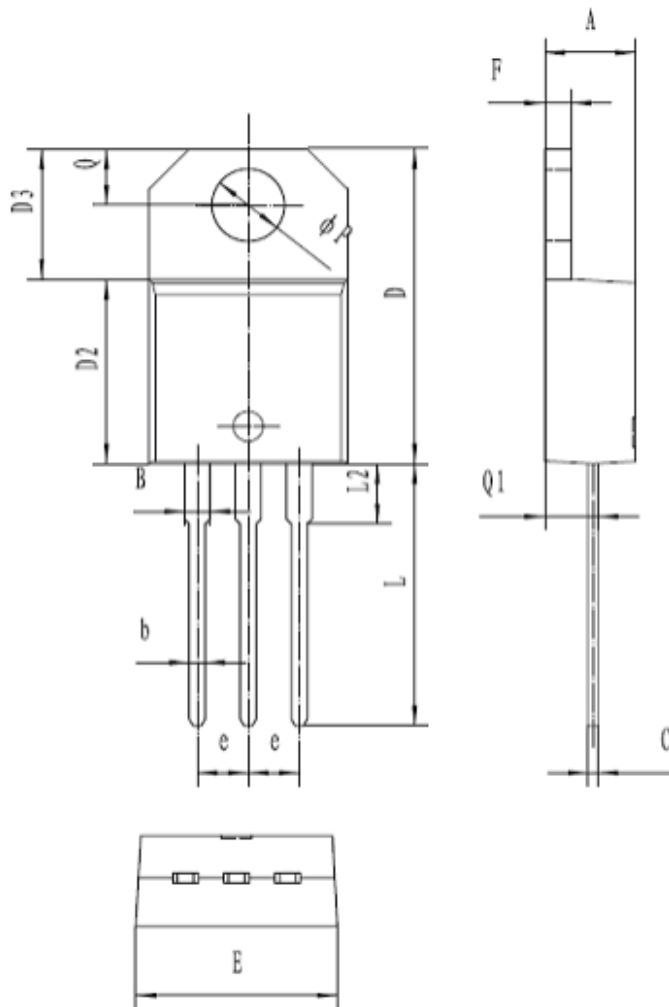




## 外形尺寸 PACKAGE MECHANICAL DATA

TO-220S/TO-220S-B

单位 Unit : mm



符号 symbol	MIN	MAX
A	4.40	4.60
B	1.14	1.70
b	0.61	0.88
C	0.47	0.70
D	15.20	15.90
D2	8.60	9.70
D3	6.20	6.60
E	10.00	10.40
e	2.40	2.70
F	1.23	1.32
L	13.00	14.00
L2	typ. 3.75	
Q	2.65	2.95
Q1	2.89	3.42
P	3.72	3.85

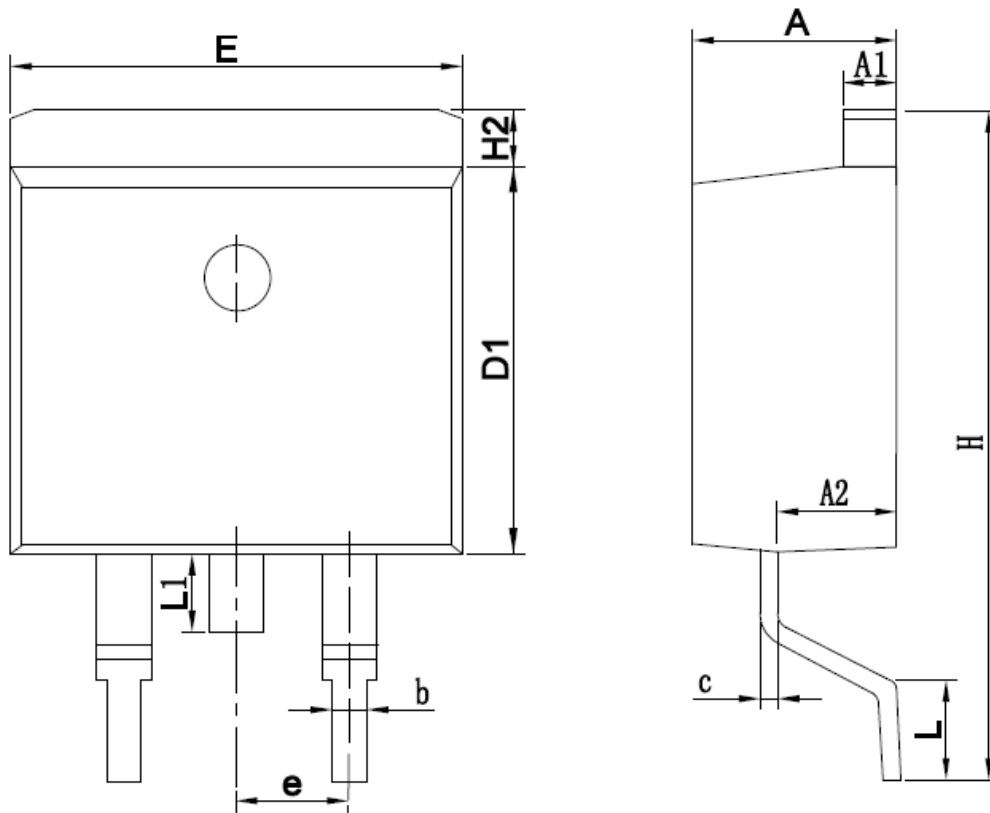




## 外形尺寸 PACKAGE MECHANICAL DATA

TO-263

单位 Unit : mm



SYMBOL	MM	
	MIN	MAX
A	4.30	4.80
A1	1.12	1.42
A2	2.54	2.84
b	0.67	1.00
c	0.29	0.52
D1	8.40	9.00
E	9.80	10.46
e	2.54BSC	
H	14.00	16.00
H2	1.12	1.45
L	1.50	3.10
L1	1.45	1.70

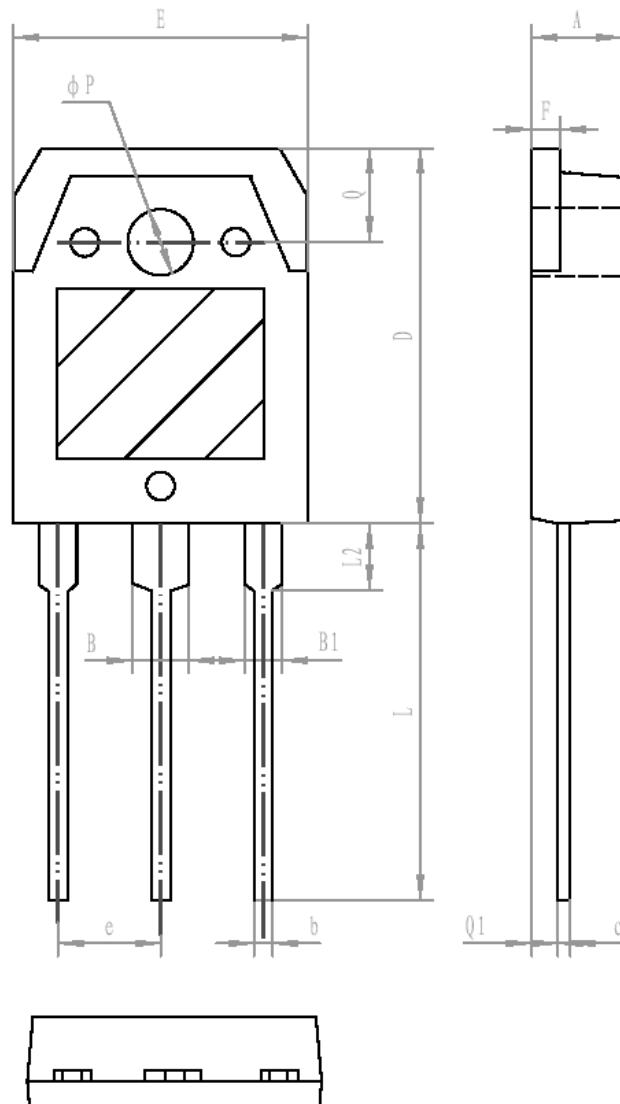




## 外形尺寸 PACKAGE MECHANICAL DATA

TO-3PB

单位 Unit : mm



符号 symbol	MIN	MAX
A	4.60	5.00
B	2.90	3.20
B1	1.90	2.20
b	0.90	1.10
c	0.50	0.70
D	19.40	20.40
E	15.40	15.80
e	5.45(TYP)	
F	1.40	1.60
L	19.50	20.50
L2	3.30	3.70
Q	4.90	5.10
Q1	1.30	1.50
P	3.10	3.50

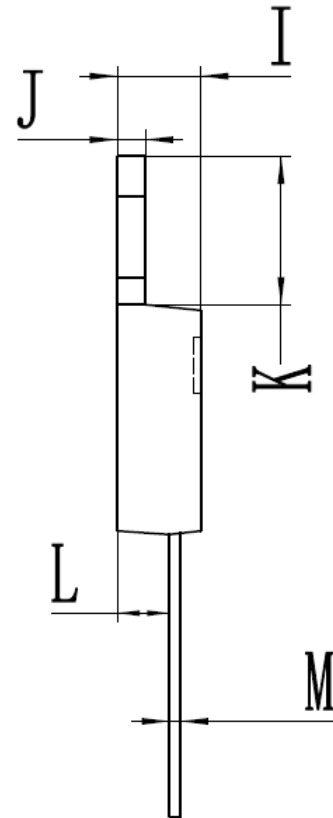
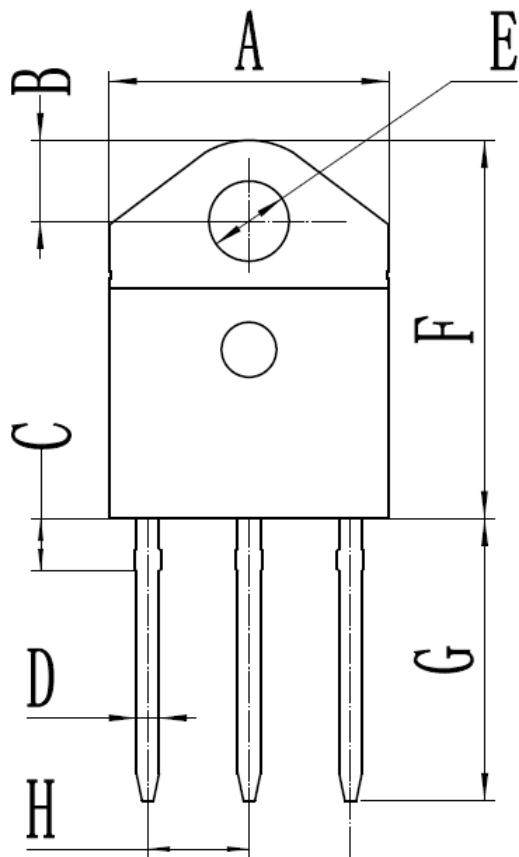




## 外形尺寸 PACKAGE MECHANICAL DATA

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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