



CP210N3B

主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	2.0A
V_{DRM}	800V
I_{GT} (1, 2, 3)	<10mA

用途

交流开关
相位控制

APPLICATIONS

AC switching
Phase control

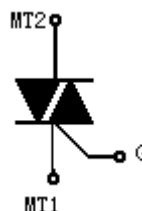
产品特性

平面芯片，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

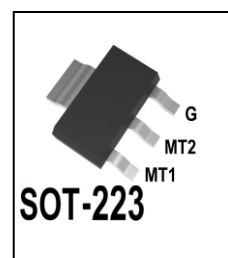
FEATURES

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

封装 Package



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



订货信息 ORDER MESSAGES

订 货 型 号 Order codes		印 记 Marking	封 装 Package
有卤-编带	无卤-编带		
Halogen-Reel	Halogen-Free-Reel		
CP210N3B-NC-A	CP210N3B-NC-AR	CP210N3B	SOT-223

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}		± 800	V
通态方均根电流 On-state RMS current	$I_{\text{T(RMS)}}$	full sine wave	2.0	A
非重复浪涌峰值通态电流 Non - repetitive surge peak on-state current	I_{TSM}	full sine wave , $t=20\text{ms}$	18	A
		full sine wave , $t=16.7\text{ms}$	20	A
	I^2t	$t=10\text{ms}$	1.6	A^2s
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	di/dt	$I_G = 20 \text{ mA}$	100	$\text{A}/\mu\text{s}$
峰值门极功率 Peak gate power	P_{GM}		5	W
平均门极功率 Average gate power	$P_{\text{G(AV)}}$		0.5	W
峰值门极电流 Peak gate current	I_{GM}		2	A
存储温度 Storage temperature	T_{stg}		-40~150	$^{\circ}\text{C}$
操作结温 Operation junction temperature	T_{VJ}		-40~150	$^{\circ}\text{C}$



电特性 ELECTRICAL CHARACTERISTIC ($T_c=25^{\circ}\text{C}$)

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}	$V_{\text{DM}}=V_{\text{DRM}}$, $T_j=150^{\circ}\text{C}$, gate open	-	-	1.5	mA
峰值通态电压 Peak on-state voltage	V_{TM}	$I_{\text{TM}}=3.0\text{A}$	-	-	2.0	V
门极触发电压 Gate trigger voltage	V_{GT}	$V_{\text{DM}}=12\text{V}$, $R_L=100\ \Omega$	-	-	1.5	V
门极触发电流 Gate trigger current	I_{GT1}	$V_{\text{DM}}=12\text{V}$, MT1(-), MT2(+), G(+)	-	-	10	mA
	I_{GT2}	$V_{\text{DM}}=12\text{V}$, MT1(-), MT2(+), G(-)	-	-	10	mA
	I_{GT3}	$V_{\text{DM}}=12\text{V}$, MT1(+), MT2(-), G(-)	-	-	10	mA
维持电流 Holding current	I_{H}	$V_{\text{DM}}=12\text{V}$, $I_T=0.1\text{A}$	-	-	15	mA
擎住电流 Latching current	I_{L}	$V_{\text{DM}}=12\text{V}$, $I_T=0.1\text{A}$	-	-	35	mA
断态临界电压上升率 Rise of off- state voltage	dV/dt	$V_{\text{DM}}=540\text{V}$, $T_j=125^{\circ}\text{C}$, gate open	500	-	-	V/ μs
		$V_{\text{DM}}=540\text{V}$, $T_j=150^{\circ}\text{C}$, gate open	200	-	-	V/ μs
峰值脉冲电压 Peak pulse voltage	V_{PP}	$T_j = 25^{\circ}\text{C}$; non-repetitive, off-state. Page 4.	-	-	2	KV
钳位电压 Clamping voltage	V_{CL}	$I_{\text{CL}} = 0.1\text{ mA}$; $t_p = 1\text{ ms}$; $T_j = 25^{\circ}\text{C}$	850			V

热特性 THERMAL CHARACTERISTIC

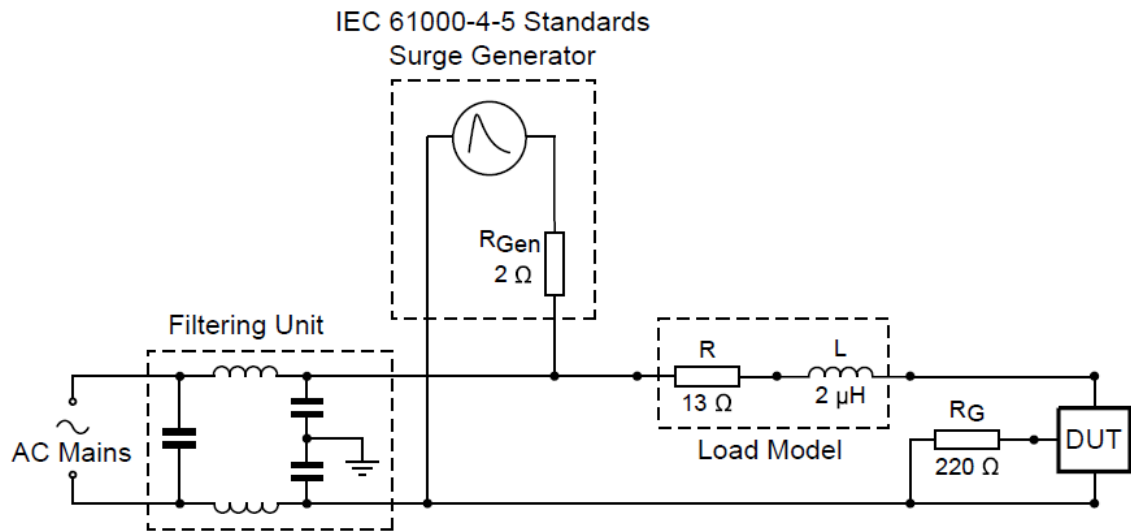
项 目 Parameter	符 号 Symbol	条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
结到焊点的热阻 Thermal resistance from junction to solder point	$R_{\text{th(j-sp)}}$		-	-	15	$^{\circ}\text{C/W}$
结到环境的热阻 Thermal resistance from junction to ambient free air	$R_{\text{th(j-a)}}$	Full cycle; printed-circuit board mounted for pad area	-	70	-	$^{\circ}\text{C/W}$





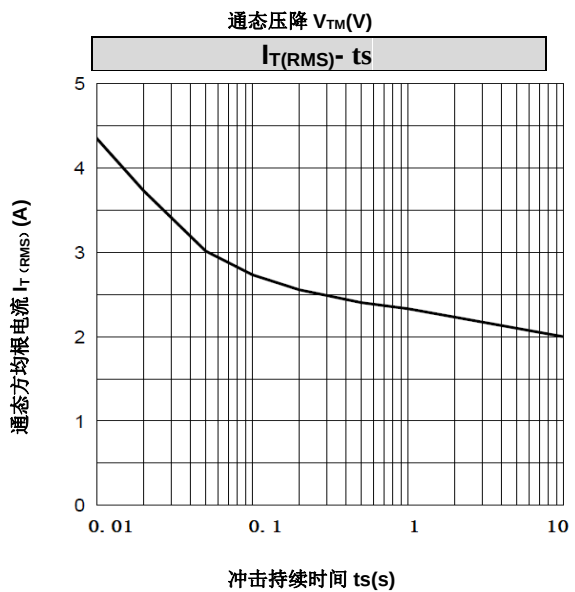
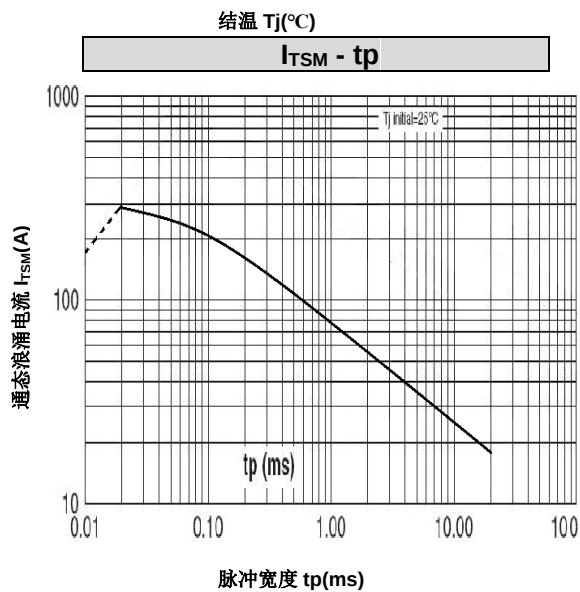
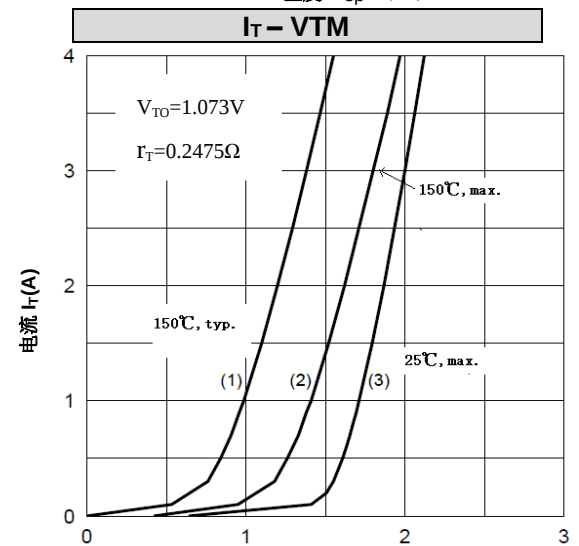
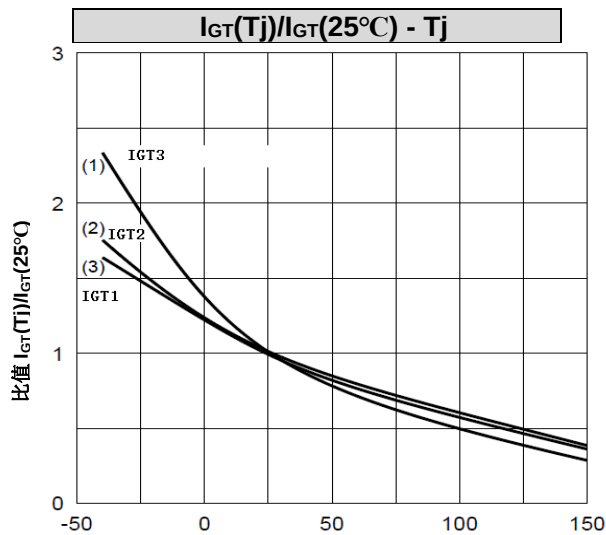
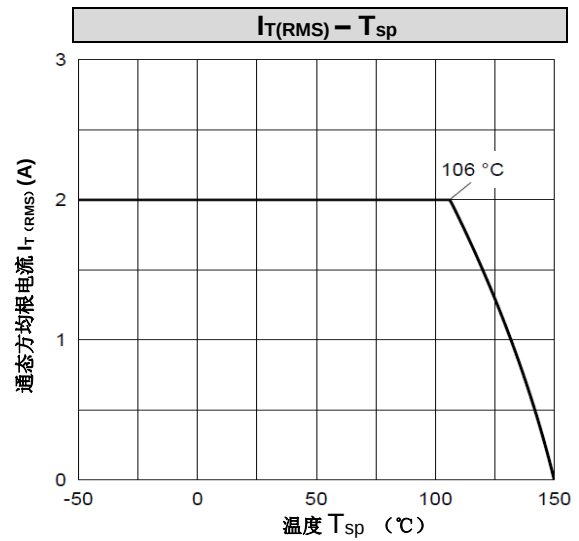
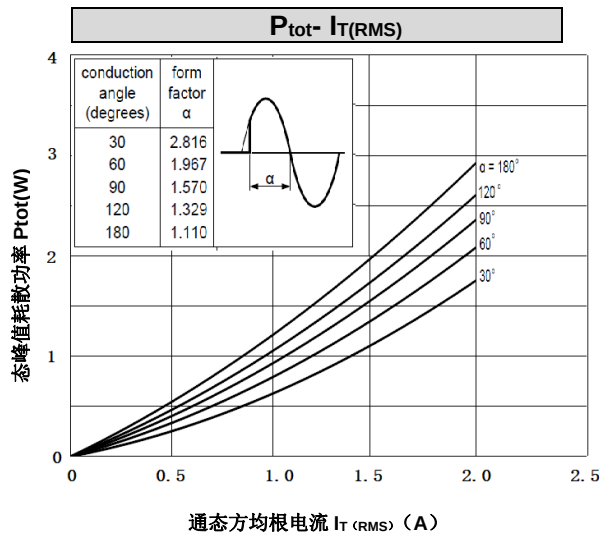
Test circuit for inductive and resistive loads with conditions equivalent to IEC

61000-4-5





特征曲线 ELECTRICAL CHARACTERISTICS (curves)

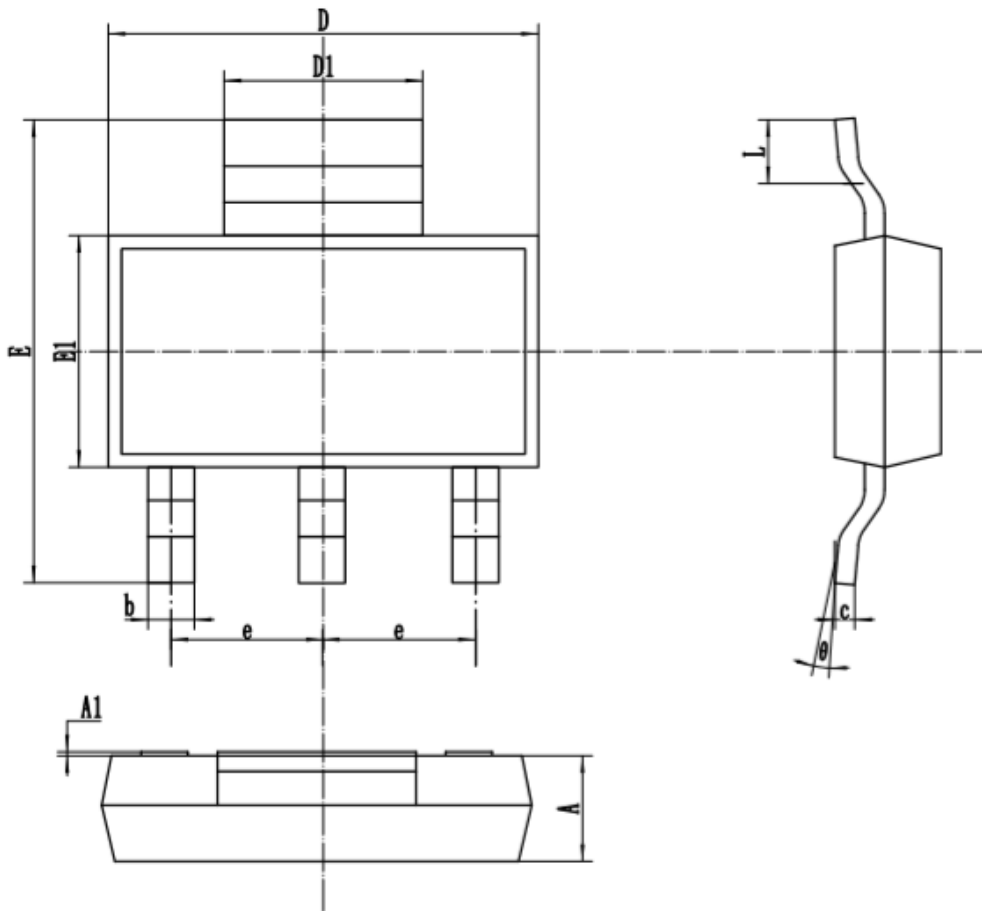




外形尺寸 PACKAGE MECHANICAL DATA

SOT-223

单位 Unit : mm



SYMBOL	mm	
	MIN	MAX
A	1.50	1.80
A1	0.01	0.12
b	0.60	0.85
c	0.15	0.40
D	6.25	6.75
D1	2.80	3.20
E	6.75	7.25
E1	3.30	3.70
e	2.30 BASIC	
L	0.80	1.20
θ	-	10°



注意事项

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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.
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