



CP610N3A

主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	6A
V_{DRM}	800V
I_{GT} (1, 2, 3)	<10mA

用途

交流开关

相位控制

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

APPLICATIONS

AC switching

Phase control

FEATURES

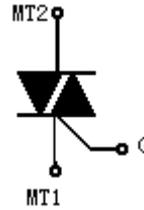
Planar passivated chip for high reliability and uniform

Low on-state voltage and

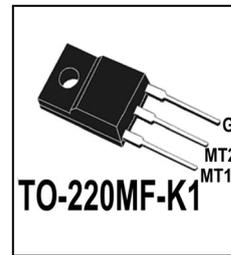
High I_{TSM}

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-条管	无卤-条管	CP610N3A	TO-220MF-K1
Halogen-Tube	Halogen-Free-Tube		
CP610N3A-F1-B	CP610N3A-F1-BR		

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	6	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	51	A
		full sine wave ,t=16.7ms	56	A
		I^2t	t=10ms	13
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}		-40~125	$^\circ\text{C}$

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 =125°C, gate open	-	-	0.8	mA
峰值通态电压 Peak on-state voltage	V _{TM}	I _{TM} =8.4A	-	-	1.7	V
门极触发电压 Gate trigger voltage	V _{GT}	V _{DM} =12V, R _L =100 Ω	-	-	1.0	V
门极触发电流 Gate trigger current	I _{GT1}	V _{DM} =12V, MT1(-), MT2(+), G(+)	-	-	10	mA
	I _{GT2}	V _{DM} =12V, MT1(-), MT2(+), G(-)	-	-	10	mA
	I _{GT3}	V _{DM} =12V, MT1(+), MT2(-), G(-)	-	-	10	mA
维持电流 Holding current	I _H	V _{DM} =12V, I _T =0.1A	-	-	25	mA
擎住电流 Latching current	I _L	V _{DM} =12V, I _T =0.1A	-	-	40	mA
断态临界电压上升率 Rise of off- state voltage	dV/dt	V _{DM} =560V, T _j =125°C, gate open	500	-	-	V/μs
峰值脉冲电压 Peak pulse voltage	V _{PP}	T _j = 25 °C; non-repetitive, off-state; Page 4.	-	-	2	KV
钳位电压 Clamping voltage	V _{CL}	I _{CL} = 0.1 mA; t _p = 1 ms; T _j = 25 °C	850			V

热特性 THERMAL CHARACTERISTIC

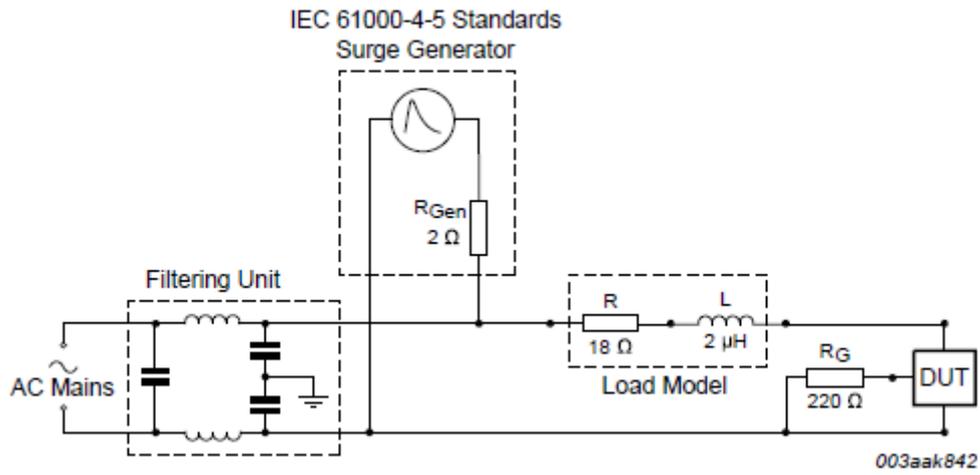
项 目 Parameter	符 号 Symbol	条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
结到热沉的热阻 Thermal resistance from junction to heatsink	R _{th(j-h)}		-	-	5	°C/W
结到环境的热阻 Thermal resistance from junction to ambient free air	R _{th(j-a)}	in free air	-	55	-	°C/W

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



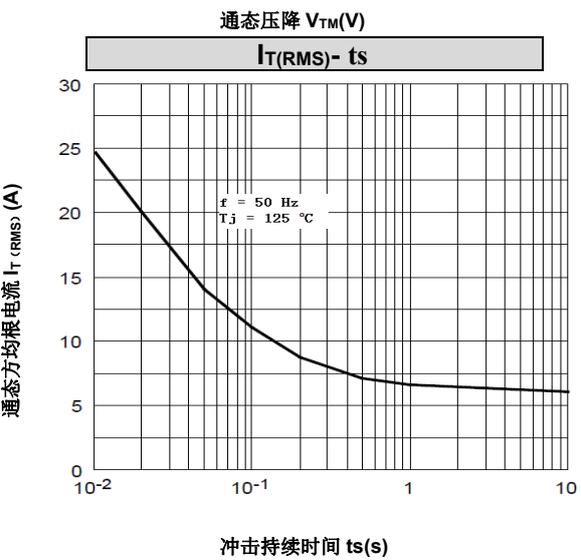
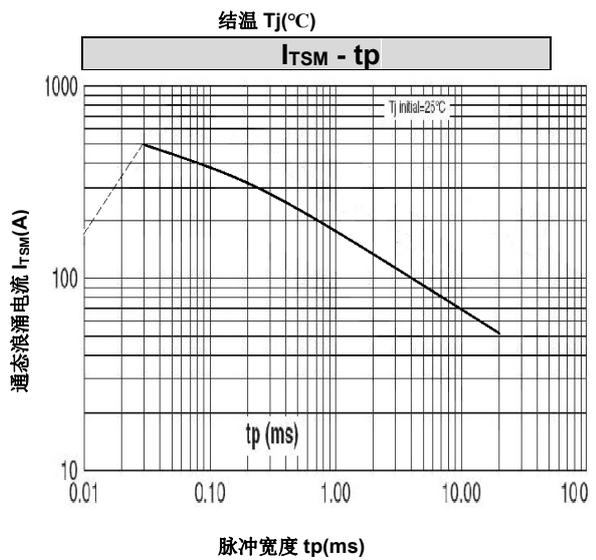
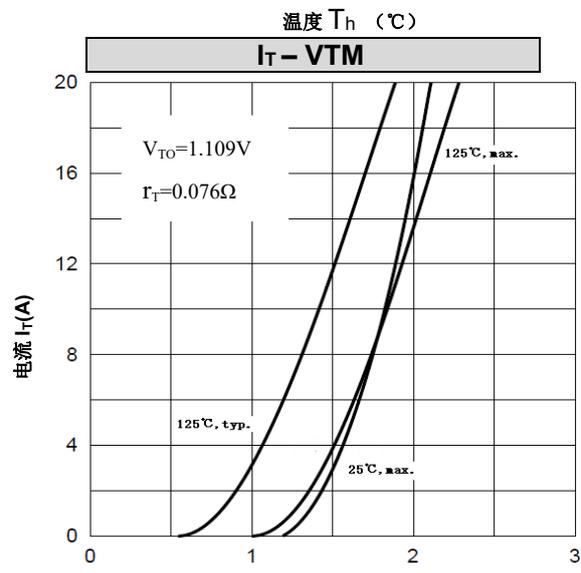
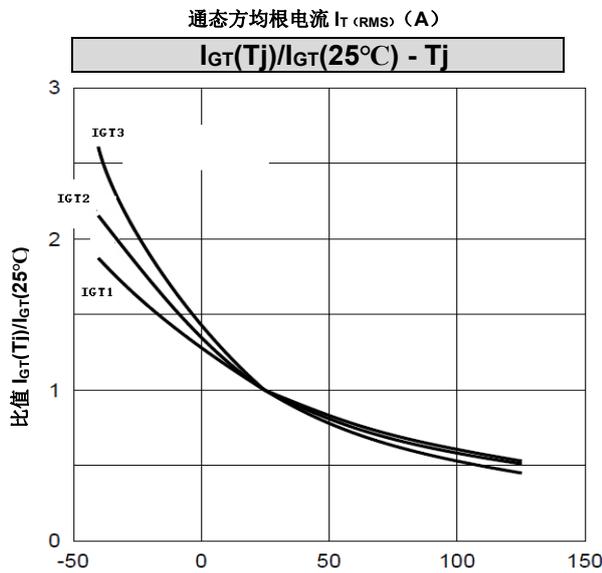
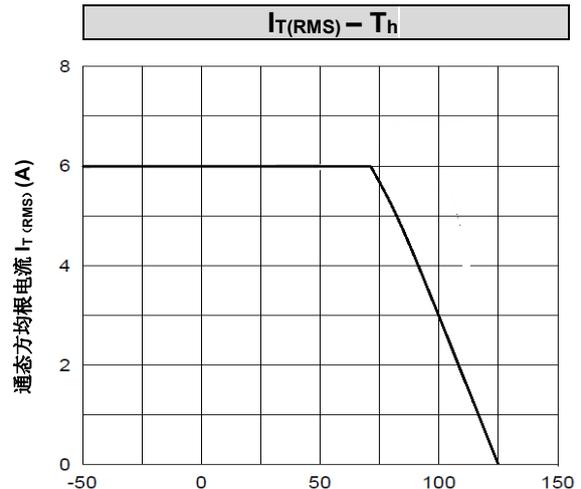
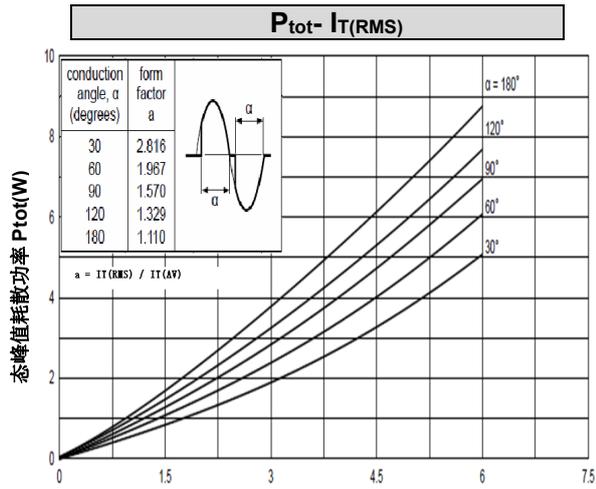
Test circuit for inductive and resistive loads with conditions equivalent to IEC

61000-4-5





特征曲线 ELECTRICAL CHARACTERISTICS (curves)

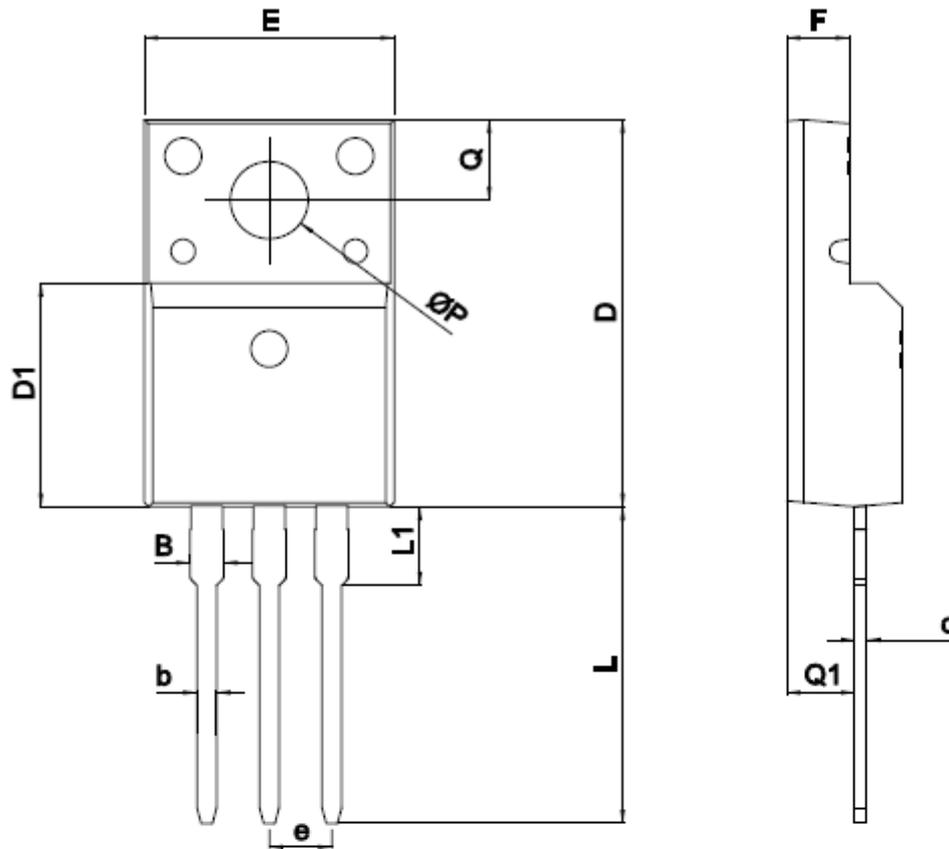




外形尺寸 PACKAGE MECHANICAL DATA

TO-220MF-K1

单位 Unit : mm



SYMBOL	mm	
	MIN	MAX
A	4.5	4.9
B	1.22	1.47
b	0.7	0.9
c	0.45	0.60
D	15.6	16.1
D1	9.0	9.3
e	2.54TYPE	
E	9.9	10.4
F	2.3	2.8
L	12.6	13.3
L1	3.1	3.4
Q	3.2	3.4
Q1	2.6	2.9
ΦP	3.0	3.5



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