



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

APPLICATIONS

AC switching
Phase control

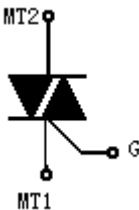
产品特性

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

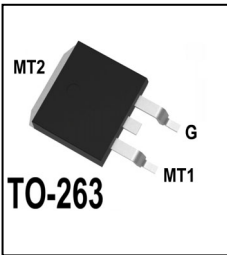
FEATURES

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-条管	无卤-条管	CP610N3A	TO-220C
Halogen-Tube	Halogen-Free-Tube		
CP610N3A-C-B	CP610N3A-C-BR		
有卤-编带	无卤-编带	CP610N3A	TO-263
Halogen-Reel	Halogen-Free-Reel		
CP610N3A-S-A	CP610N3A-S-AR		

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 , $t=20\text{ms}$	51	A
		full sine wave , $t=16.7\text{ms}$	56	A
	I^2t	$t=10\text{ms}$	13	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}		-40~125	$^{\circ}\text{C}$

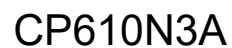
电特性 ELECTRICAL CHARACTERISTIC ($T_c=25^{\circ}\text{C}$)

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}	$V_{\text{DM}}=V_{\text{DRM}}$, $T_j=125^{\circ}\text{C}$, gate open	-	-	0.8	mA
峰值通态电压 Peak on-state voltage	V_{TM}	$I_{\text{TM}}=8.4\text{A}$	-	-	1.7	V
门极触发电压 Gate trigger voltage	V_{GT}	$V_{\text{DM}}=12\text{V}$, $R_L=100\ \Omega$	-	-	1.0	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}	$V_{\text{DM}}=12\text{V}$, $I_T=0.1\text{A}$	-	-	25	mA
擎住电流 Latching current	I_{L}	$V_{\text{DM}}=12\text{V}$, $I_T=0.1\text{A}$	-	-	40	mA
断态临界电压上升率 Rise of off- state voltage	dV/dt	$V_{\text{DM}}=560\text{V}$, $T_j=125^{\circ}\text{C}$, gate open	500	-	-	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 case	$R_{\text{th(j-c)}}$	TO-220C/TO-263	-	-	2.0	$^{\circ}\text{C/W}$
结到环境的热阻 Thermal resistance from junction to ambient free air	$R_{\text{th(j-a)}}$	in free air	-	60	-	$^{\circ}\text{C/W}$





IEC 61000-4-5 Standards
Surge Generator

Filtering Unit

AC Mains

R_{Gen}
2 Ω

R
18 Ω

L
2 μH

Load Model

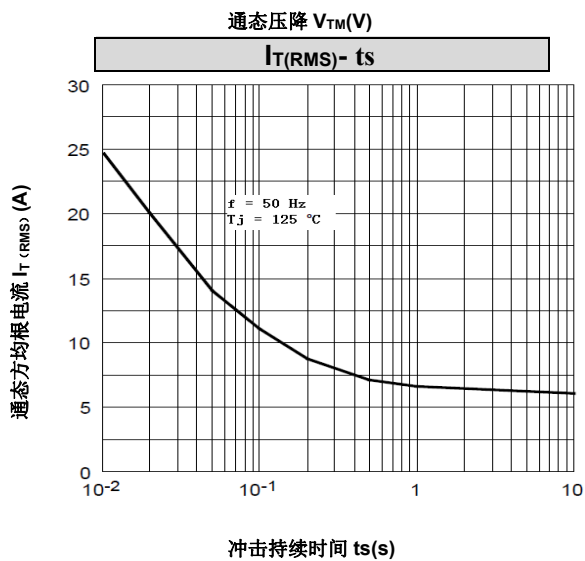
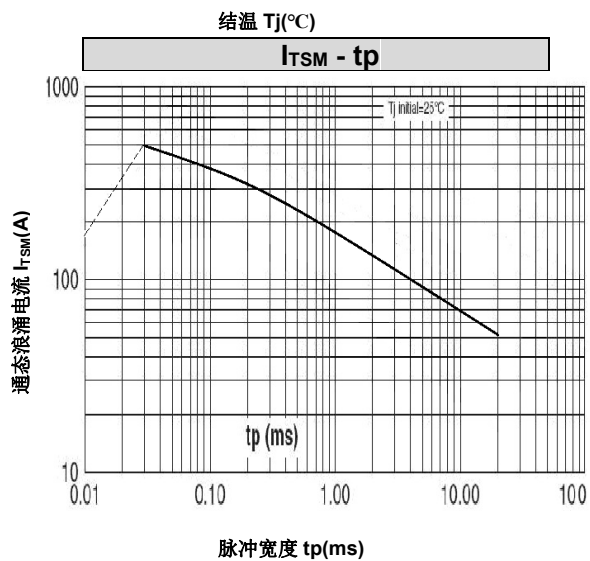
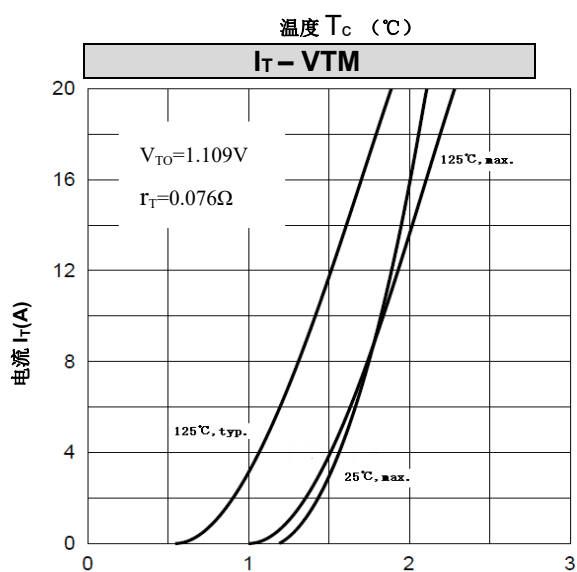
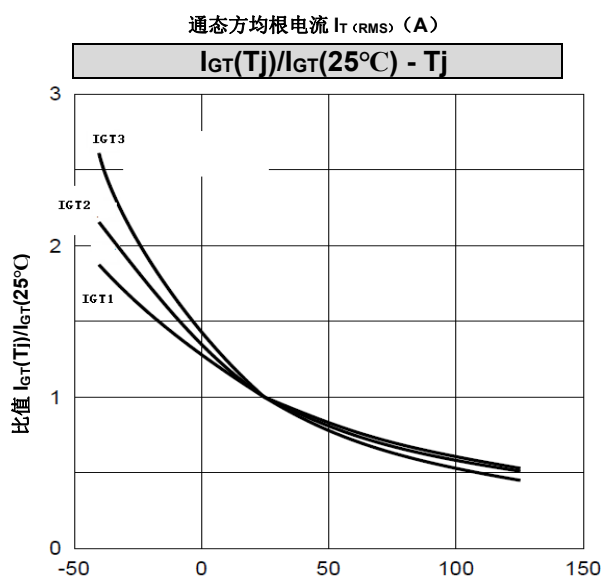
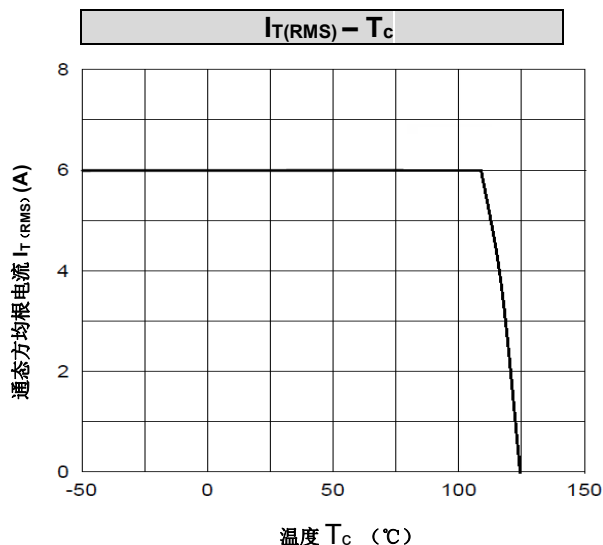
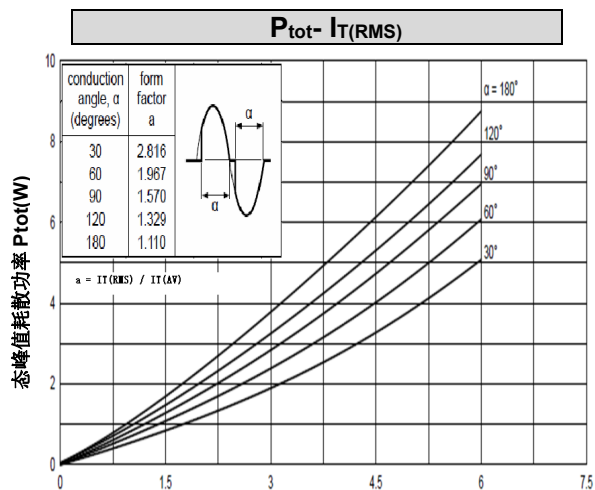
R_G
220 Ω

DUT

003aak842



特征曲线 ELECTRICAL CHARACTERISTICS (curves)

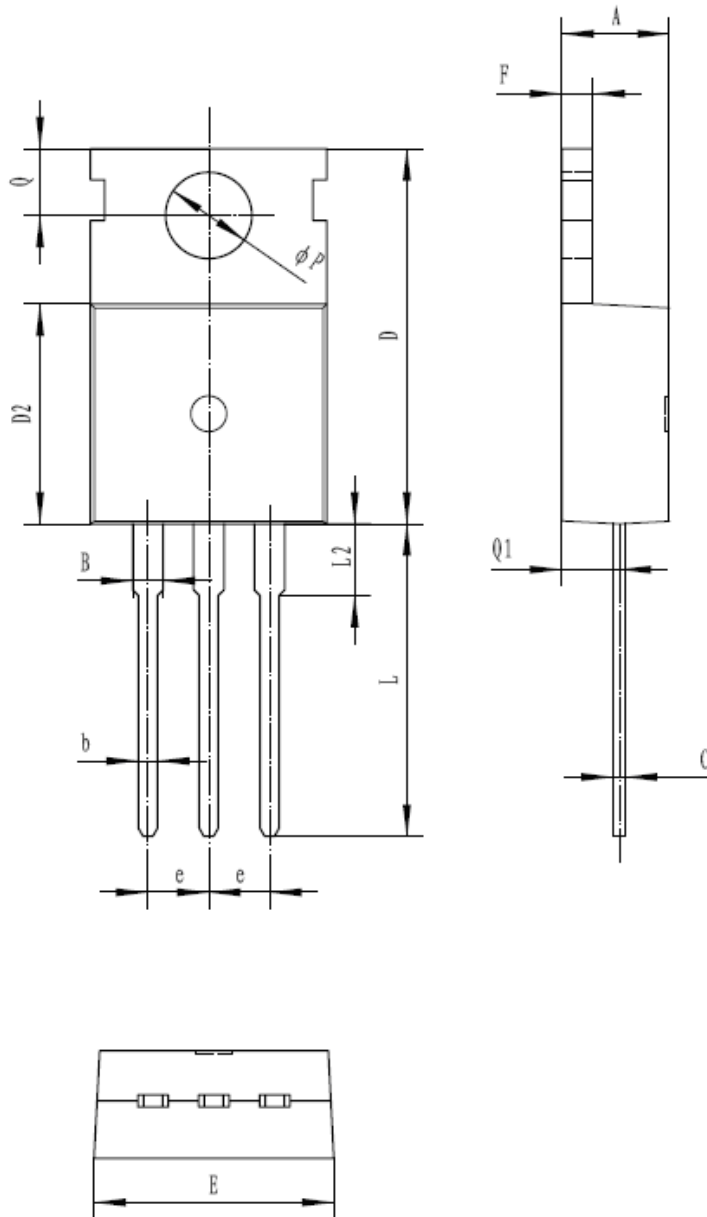




外形尺寸 PACKAGE MECHANICAL DATA

TO-220C

单位 Unit : mm



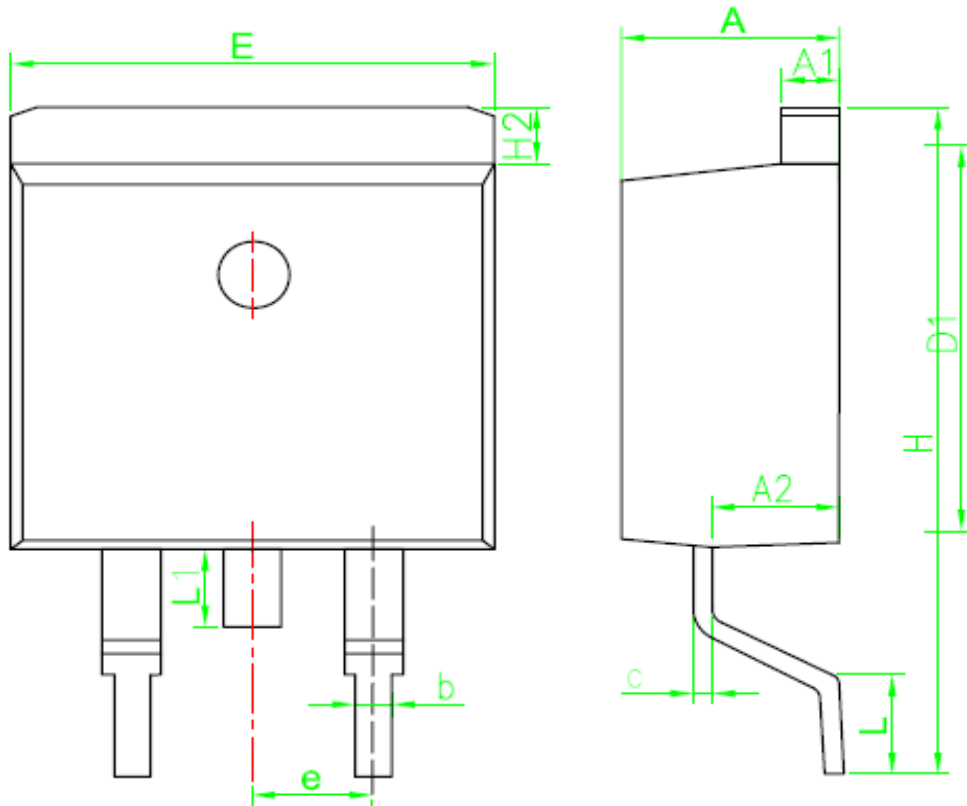
符号 symbol	MIN	MAX
A	4.30	4.70
B	1.22	1.40
b	0.70	0.95
c	0.40	0.65
D	15.20	16.20
D2	9.00	9.40
E	9.70	10.10
e	2.39	2.69
F	1.25	1.40
L	12.60	13.60
L2	2.80	3.20
Q	2.60	3.00
Q1	2.20	2.60
P	3.50	3.80



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



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