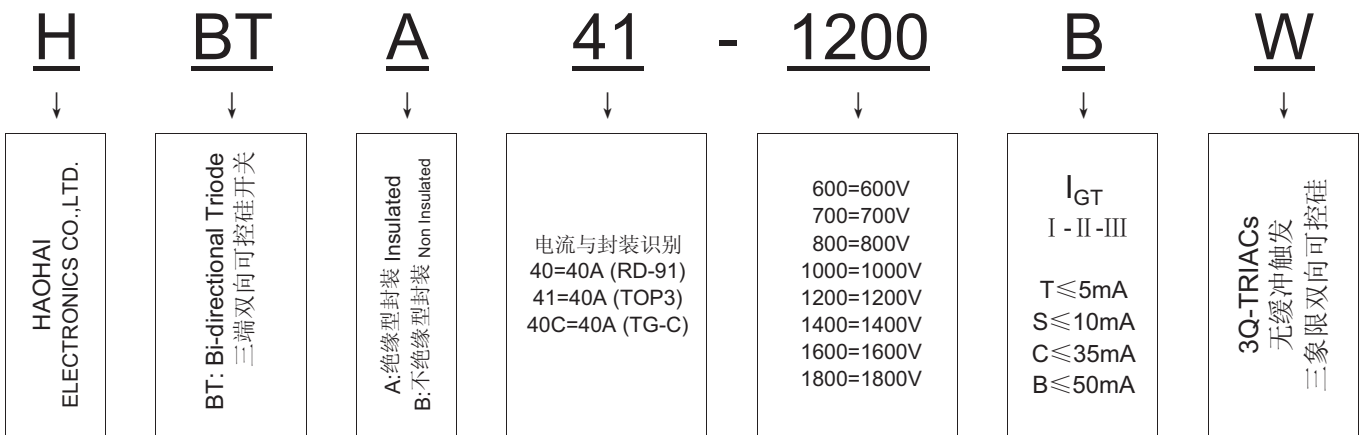


<p>DESCRIPTION High current density due to double mesa technology; SIPOS and Glass Passivation. BTA40, BTA41, TG40C Series triacs is suitable for general purpose AC switching. They can be used as an ON/OFF Function in applications such as static relays, heating regulation, induction motor starting circuits..... or for phase control operation light dimmers, motor speed controllers. BTA40-BW, BTA41-BW Series are 3 Quadrants Triacs, They are specially recommended for use on inductive loads. BTA40, BTA41, TG40C are isolated internally, they provides a 2500V RMS - isolation voltage from all three terminals to external heatsink. TOP3, RD-91 and TG-C Insulated Package</p>	<p>产品特点 大电流、绝缘型封装、特制高压、三象限双向可控硅 双面台面玻璃钝化工艺；背面多层金属电极 具有较高的阻断电压和抗电流冲击能力 可以适应于DB3触发电路、直流和交流光耦触发电路 主要用途 自动化电气设备；开关电源；无功补偿；复合开关 交流电开关；交流/直流电源变换 工业和家庭电加热器的温度控制 大功率路灯；大功率捕鱼器 电机马达调速控制电路 以及三相交流输入的高压电路、变频电路 封装外形: TOP3、RD-91、TG-C 绝缘型封装</p>
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Product Model Reference & Naming 【产品型号参考及型号命名】

3-Quadrants TRIACs

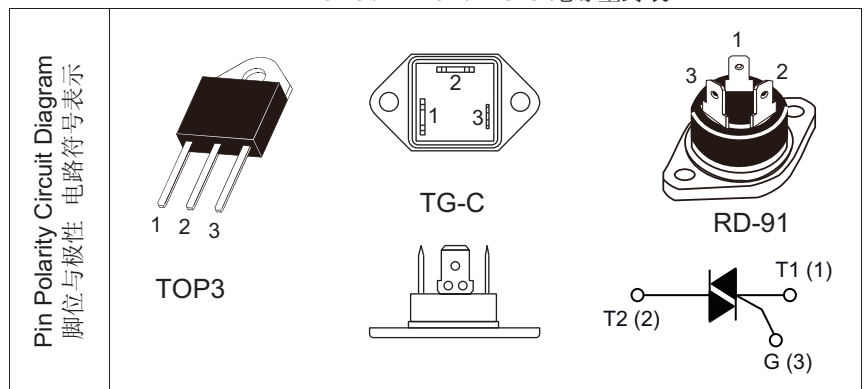
40A 双向可控硅 绝缘型封装	产品型号列表、种类区分、型号对照电压值					型号后缀 触发电流 I - II - III
	600V	800V	1000V	1200V	1600V	
TG-C	TG40C60	TG40C80	TG40C100	TG40C120	TG40C160	≤50mA
RD-91	BTA40-600BW	BTA40-800BW	BTA40-1000BW	BTA40-1200BW	BTA40-1600BW	BW≤50mA
TOP3	BTA41-600BW	BTA41-800BW	BTA41-1000BW	BTA41-1200BW	BTA41-1600BW	BW≤50mA
说明	常规品种	高压品种	未量产	高压品种	特制高压	



PINNING: Insulated Package

Pin 管脚排列	Symbol 对应极性	Description 极性含义
1	T1	第一阳极
2	T2	第二阳极
3	G	门-控制极
4	Tab	散热片

TOP3、RD-91、TG-C 绝缘型封装



■ ABSOLUTE MAXIMUM RATINGS

SYMBOL 符号表示	Signification in Symbol 器件参数字母符号含义		Test Conditions 测试条件说明	Value 数值	Unit 单位
$I_{T(RMS)}$	RMS On-state Current (full sine wave)		TOP3	$T_C=80^{\circ}C$	40
			RD-91, TG-C	$T_C=90^{\circ}C$	
I_{TSM}	Non Repetitive Surge Peak on-state Current (full cycle, $T_J=25^{\circ}C$)		f=60Hz, t=16.7mS	420	A
			f=50Hz, t=20mS	400	
I_{GM}	Peak Gate Current		tp=20μs, $T_J=125^{\circ}C$	4	
I^2t	I^2t Value for Fusing Consideration		tp=10mS, $T_J=25^{\circ}C$	880	A ² ses
dl/dt	Critical rate of rise of on-state current $I_G=2 \times I_{GT}$, tr≤100nS, f=120Hz, $T_J=125^{\circ}C$		I - II - III	50	A/μs
V_{DRM}	Repetitive peak off-state Voltages	见型号对照列表	$T_J=25^{\circ}C$	600~1600	V
V_{RRM}	Repetitive peak Reverse Voltages	见型号对照列表	$T_J=25^{\circ}C$		
V_{DSM}	Non Repetitive Surge peak off-state Voltages		tp=10mS, $T_J=25^{\circ}C$	$V_{DRM}+100$	
V_{RSM}	Non Repetitive peak Reverse Voltages		tp=10mS, $T_J=25^{\circ}C$	$V_{RRM}+100$	
$P_{G(AV)}$	Average gate power dissipation		$T_J=25^{\circ}C$	1	W
P_{GM}	Peak gate power		tp=20μs, $T_J=25^{\circ}C$	10	
T_J	Operating Junction Temperature Range			-40 ~ +125	°C
T_{stg}	Storage Junction Temperature Range			-40 ~ +150	
$R_{th(j-c)}$	Junction to Case (AC)		TOP3	0.9	°C/W
			RD-91, TG-C	0.8	

■ 绝缘电阻特征: ISOLATION LIMITING VALUE & CHARACTERISTIC ($T_{hs}=25^{\circ}C$ unless otherwise specified)

■ STATIC CHARACTERISTICS

SYMBOL 符号表示	Parameter & Test Conditions 符号含义 及 参数测试条件说明		Quadrant	BTA40, BTA41, TG-C		Unit 单位	
				BW	B		
I_{GT}	$V_D=12V, R_L=30\Omega$		Max.	I - II - III	50	mA	
				IV	--		100
I_H	$I_T=100mA$		Max.	ALL	60	mA	
I_L	$I_G=1.2 I_{GT}$		Max.	I - III	80		
				IV	--		70
				II	100	90	
dV/dt	$V_D=67\%V_{DRM}$ gate open		Min.	$T_J=125^{\circ}C$	1000	500	V/μs
(dl/dt)C	Without snubber		Min.	$T_J=125^{\circ}C$	20	5	A/ms
V_{GT}	$V_D=12V, R_L=30\Omega$		Max.	ALL	1.3		V
V_{GD}	$V_D=V_{DRM}, R_L=3.3K\Omega, T_J=125^{\circ}C$		Min.	ALL	0.2		
V_{TM}	$I_{TM}=60A, tp=380\mu s$		Max.	$T_J=25^{\circ}C$	1.55		
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}$		Max.	$T_J=25^{\circ}C$	10		μA
I_{RRM}	$V_D=V_{DRM}, V_R=V_{RRM}$		Max.	$T_J=125^{\circ}C$	5		mA

Electrical characteristics & Typical characteristics (电气特性与典型特征)

FIG.1:Maximum power dissipation versus RMS on-state current(full cycle)

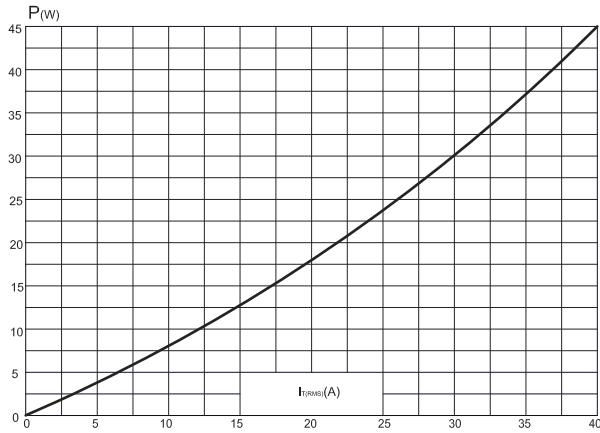


FIG.2:RMS on-state current versus case temperature(full cycle)

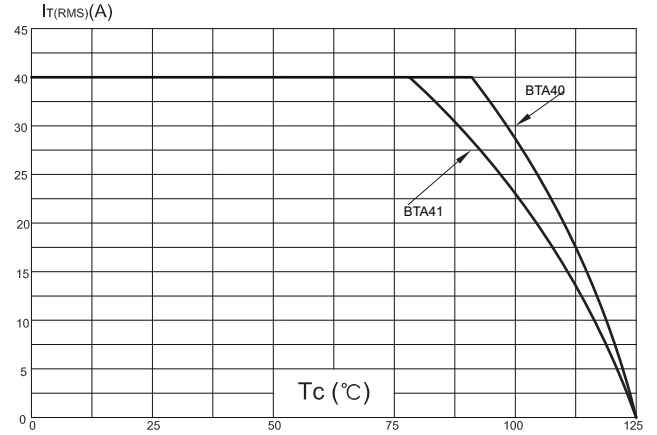


FIG.3:On-state characteristics (maximum values)

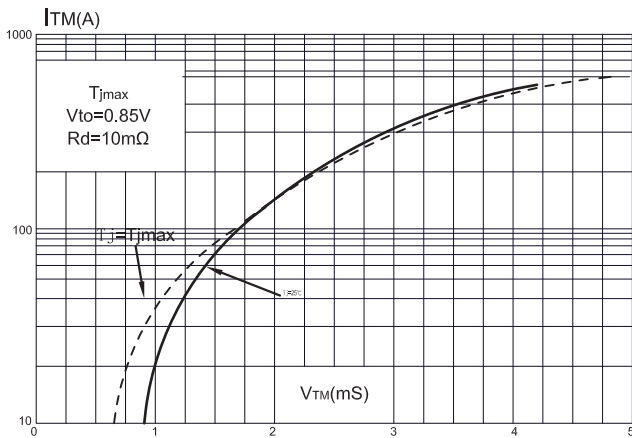


FIG.4:Surge peak on-state current versus number of cycles

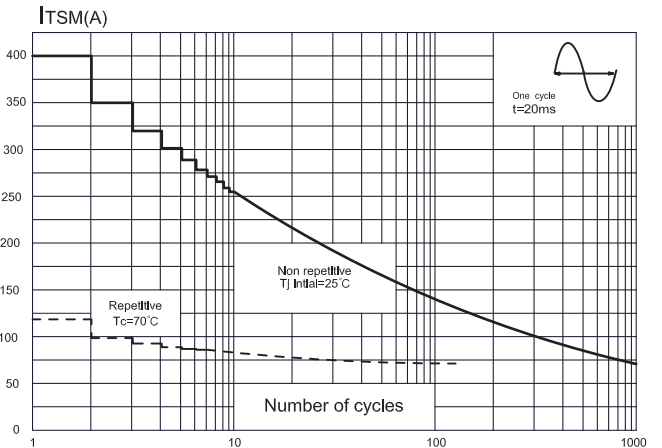


FIG.5:Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t .

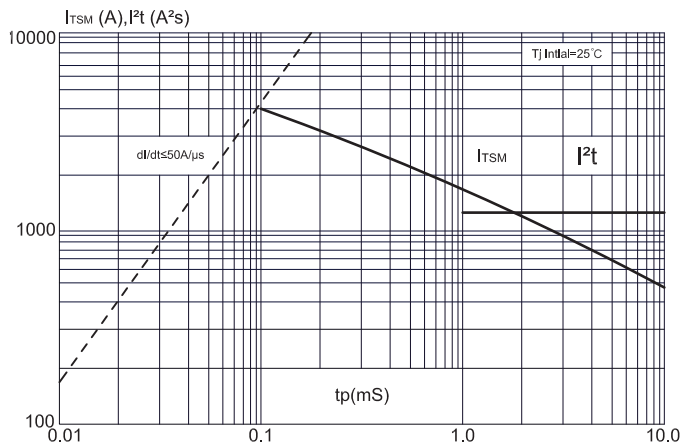
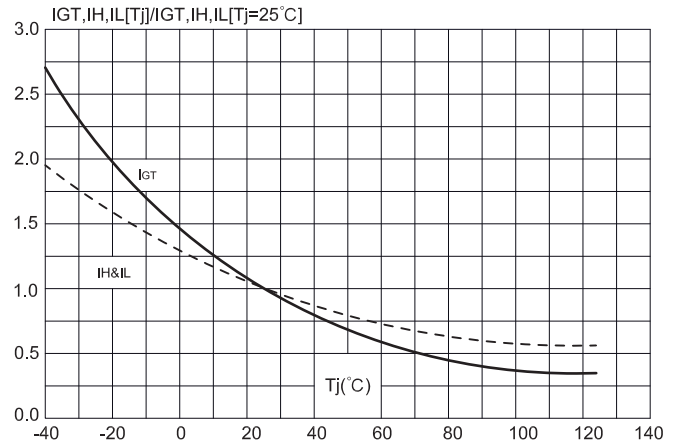
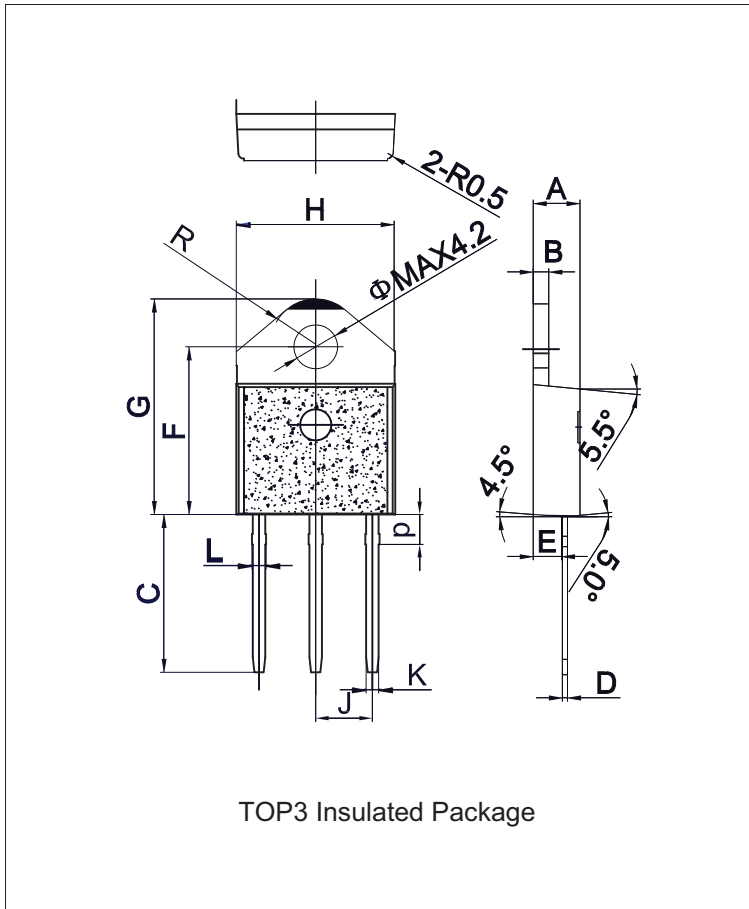


FIG.6:Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)

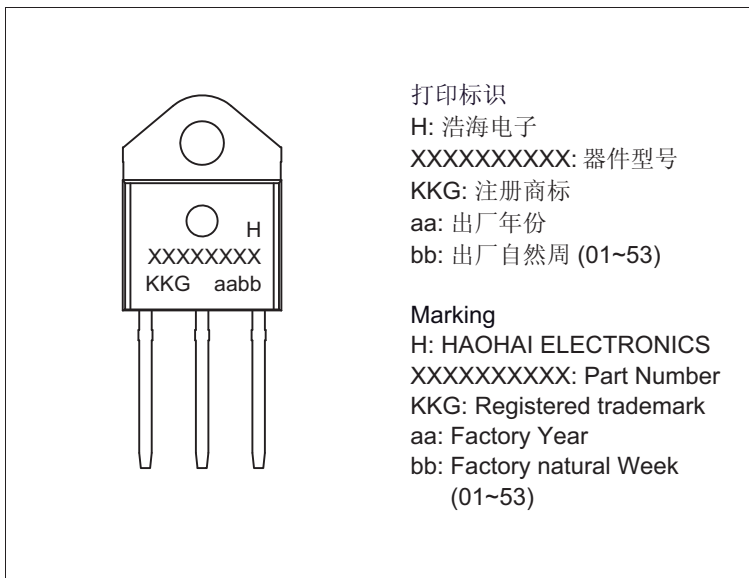


TOP3 PACKAGE MECHANICAL DATA (mm & inch)



TOP3 封装尺寸数据 (毫米与英寸对照)

REF	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.40	4.60	0.173	0.181
B	1.45	1.55	0.057	0.061
C	14.35	15.6	0.565	0.614
D	0.50	0.70	0.020	0.028
E	2.70	2.90	0.106	0.114
F	15.8	16.5	0.622	0.650
G	20.4	21.1	0.815	0.831
H	15.1	15.5	0.594	0.610
J	5.40	5.65	0.213	0.222
K	1.20	1.40	0.047	0.055
L	1.35	1.50	0.053	0.059
P	2.80	3.00	0.110	0.118
R	4.6		0.181	

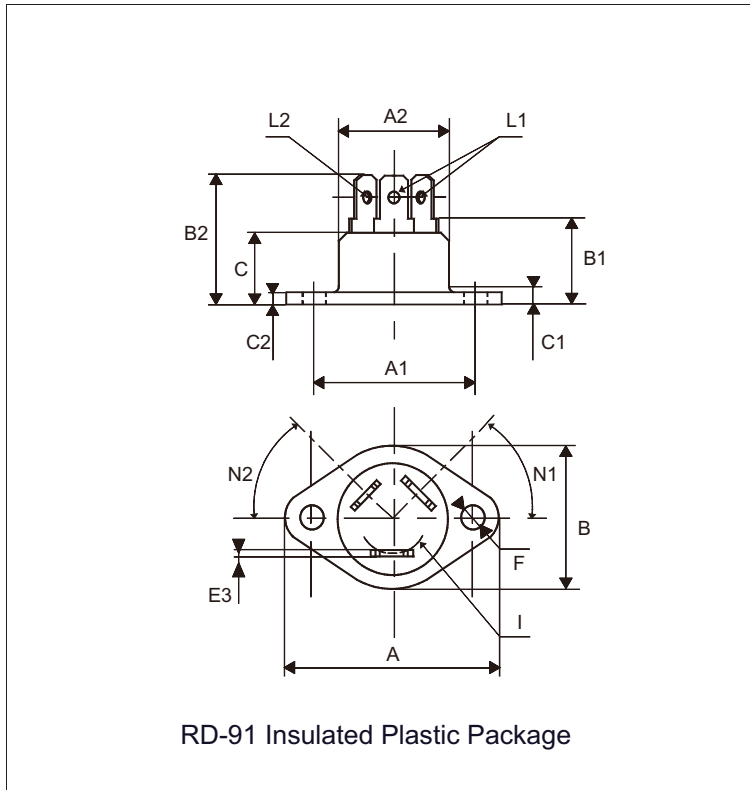


包装规格

TOP3: 条管装、纸盒装
每管30只
每盒450只
每箱3600只

Packaging Specifications
TOP3 Plastic tube
30Pcs/Tub
450cs/BOX
3600Pcs/Cartons

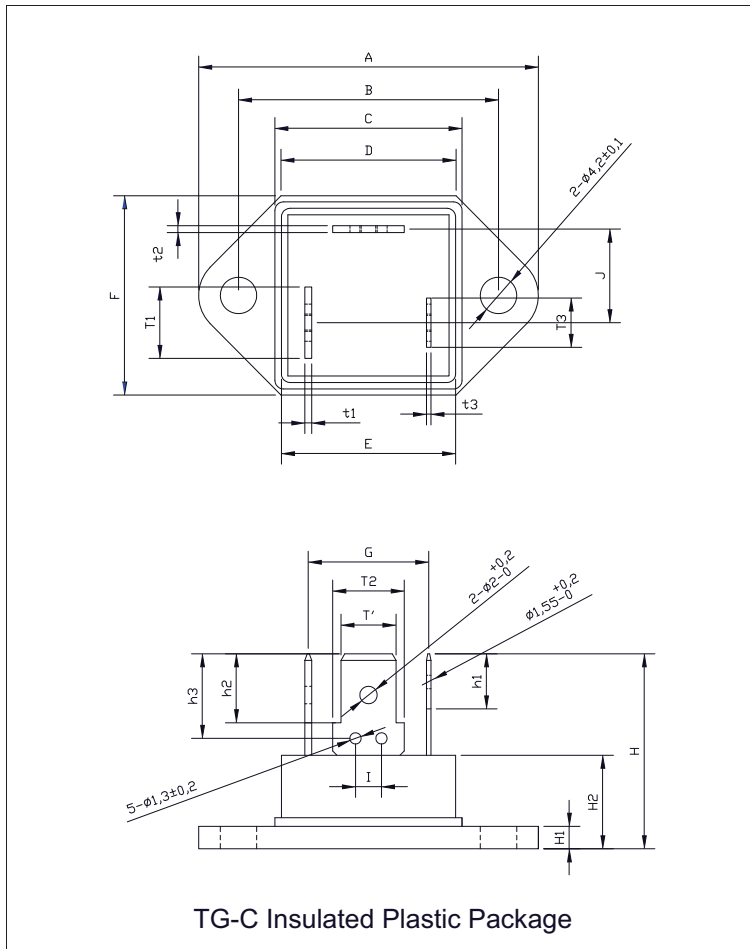
RD-91 PACKAGE MECHANICAL DATA (mm & inch)



RD-91 封装尺寸数据 (毫米与英寸对照)

REF	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A		40.00		1.575
A1	29.90	30.30	1.177	1.193
A2		22.00		0.867
B		27.00		1.063
B1	13.50	16.50	0.531	0.650
B2		24.00		0.945
C		14.00		0.551
C1		3.500		0.138
C2	1.95	3.000	0.077	0.118
E3	0.70	0.900	0.027	0.035
F	4.00	4.500	0.157	0.177
I	11.20	13.60	0.441	0.535
L1	3.10	3.50	0.122	0.138
L2	1.70	1.90	0.067	0.075
N1	33°	43°	33°	43°
N2	28°	39°	28°	38°

TG-C PACKAGE MECHANICAL DATA (mm & inch)



TG-C 封装尺寸数据 (毫米与英寸对照)

REF	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A		39.2		1.543
B	29.8	30.2	1.173	1.189
C		21.6		0.850
D		20.2		0.795
E		20.1		0.791
F		23.0		0.906
T1, T2	8.25		0.325	
T3	5.70		0.224	
T'	6.35		0.250	
t1, t2	0.80		0.031	
t3	0.50		0.020	
G	13.9		0.547	
H1	2.60		0.102	
H2	10.8		0.425	
H		22.5		0.886
h1	6.20	6.50	0.244	0.256
h2	7.80	8.10	0.307	0.319
h3	9.45	10.05	0.372	0.396
I	2.7	3.3	0.106	0.130
J	10.8		0.425	

Manufacturers version information
2006-09-01, KKG™ Product Data-1.0
2012-04-25, KKG™ Product Data-2.1
2014-06-10, KKG™ Product Data-3.1



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