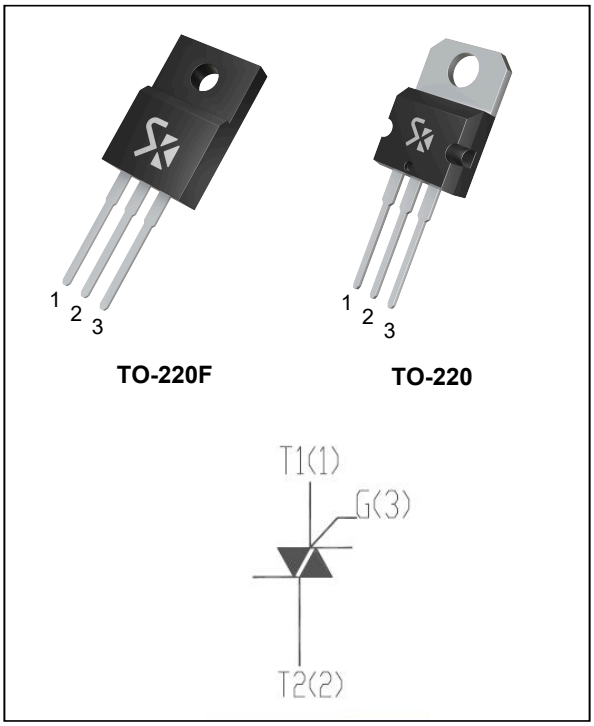
BT136

Silicon Controlled Rectifier



■ FEATURES

* NPNPN five-layer silicon bidirectional device
* With independent intellectual property rights of single-side grooving technology
* Table glass passivation process
* Multilayer metallized electrode on the back
* High blocking voltage and high temperature stability

■ Application

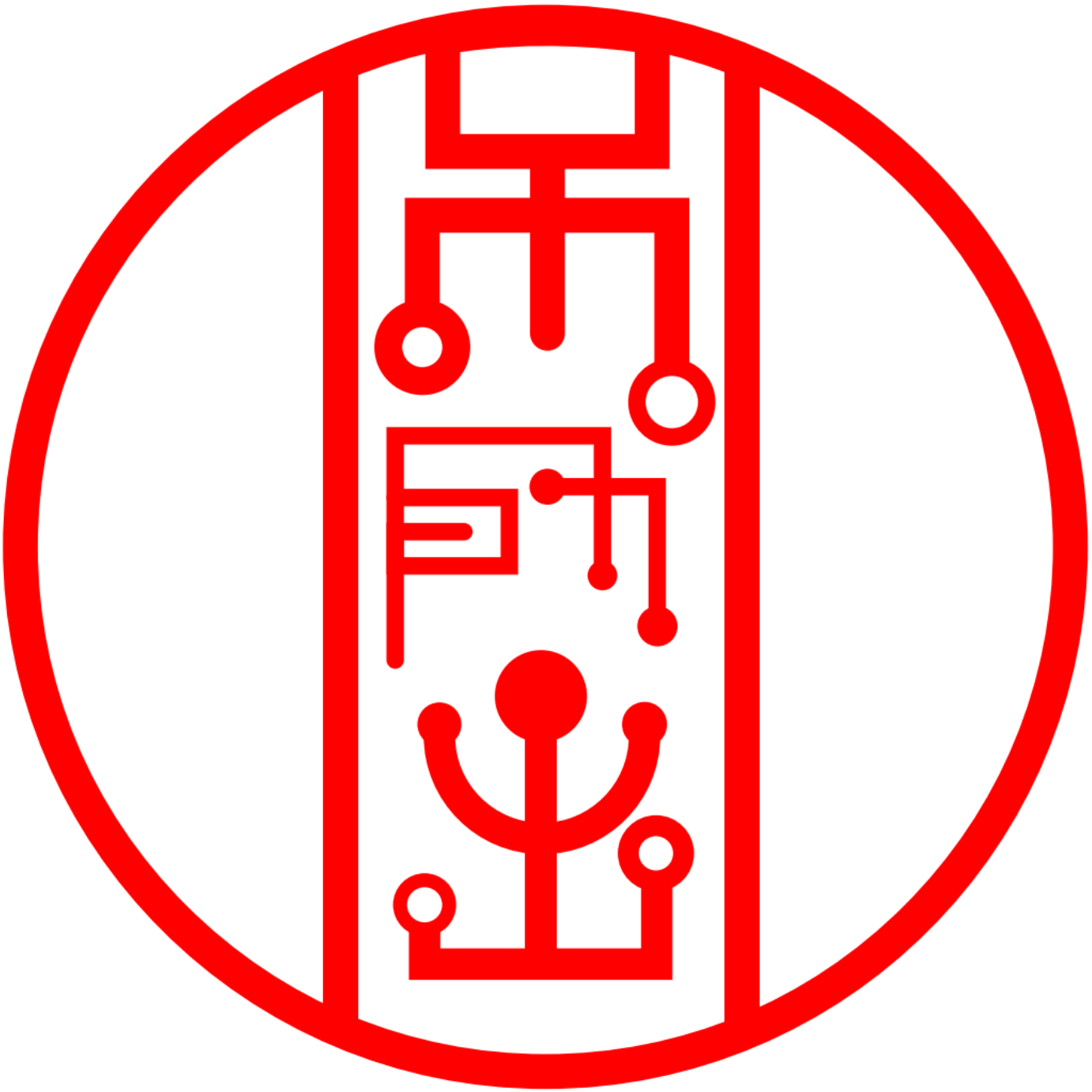
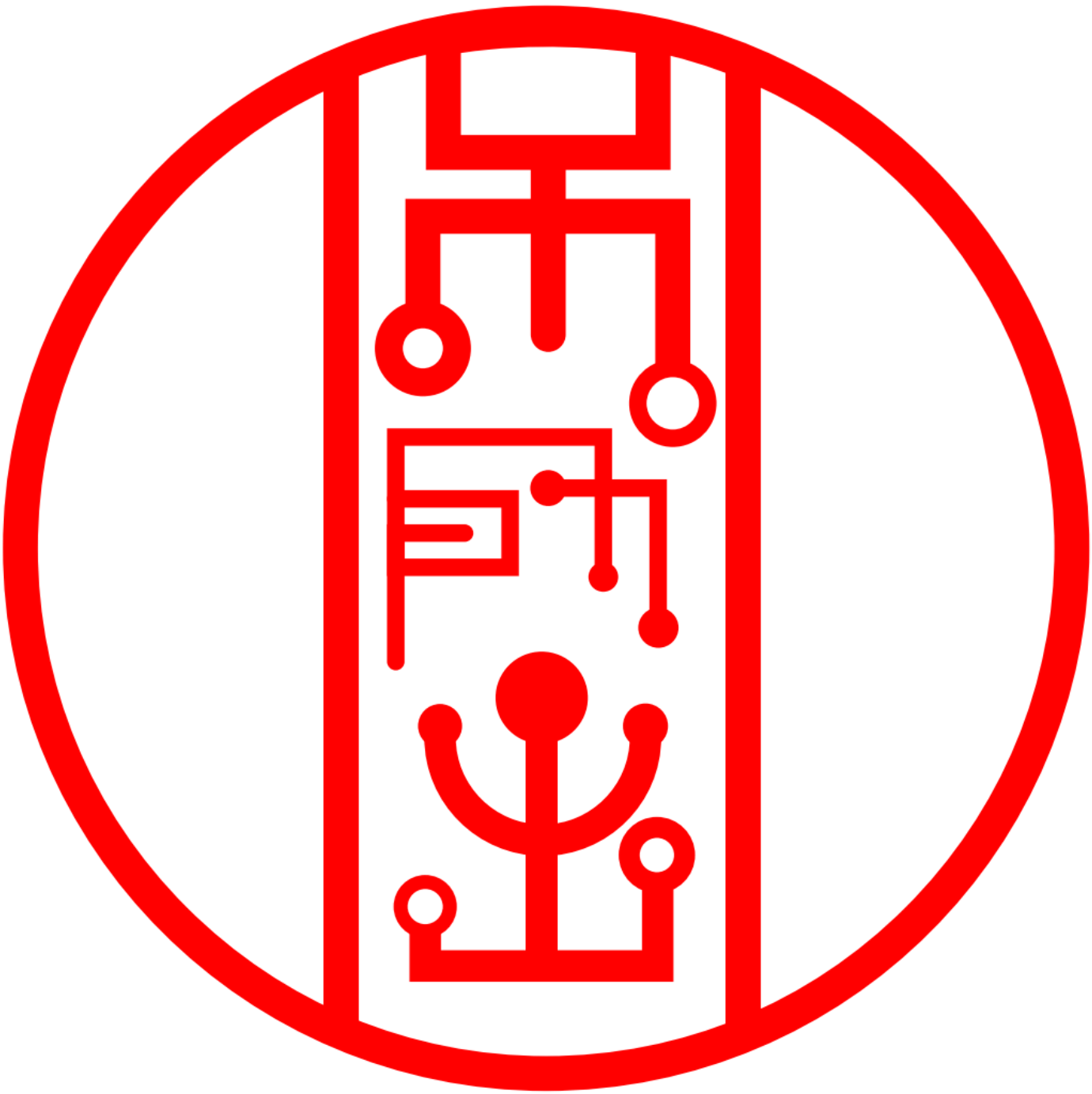
• Solid state relay;
• Phase-controlled circuit;
• Adjustable heating contro
• Speed control controller

■ ABSOLUTE MAXIMUM RATINGS

SYMBOL	PARAMETER			RATINGS	UNIT
$I_{T(RMS)}$	RMS On-State Current	BTA BTB	Tc=80℃ Tc=90℃	4	A
I_{TSM}	Non Repetitive Surge Peak On-State Current	F=50HZ	t=20ms	120	A
I^2t	I^2t Value	tp=10ms		72	A^2S
di/dt	Critical Rate of Rise of On-State Current		Tj=150℃	50	A/us
V_{DRM}/V_{RRM}	Repetitive Peak Off-State Voltage		Tj=25℃	800	V
I_{GM}	Peak Gate Current	tp=20us	Tj=150℃	4	A
$P_{G(AV)}$	Average Gate Power Dissipation		Tj=150℃	10	W
Tstg Tj	Storage Junction Temperature Operating Junction Temperature			−40to+150 −40to+125	℃

■ Electrical characteristics (three quadrants)

PARAMETER	SYMBOL	TEST CONDITIONS	Quadrants		RATINGS		UNIT
Gate Trigger Current	I_{GT}	V_D=12V R_L=100Ω	I II III IV	MAX	I II III	IV	mA
					20	50	
Gate Trigger Voltage	V_{GT}			MAX	1.2		V
GateNon-Trigger Voltage	V_{GD}	Tj=150℃		MIN	0.2		V
HoldingCurrent	I_H	I_T=0.5A		MAX	20		mA
Latching Current	I_L	I_G=1.2I_{GT}		MAX	20		mA
					30		
Critical Rate of Rise of Off-State Voltage	dv/dt	V_D=2/3V_{DRM} Tj=150℃		MIN	1000		V/us
Critical Rate of Rise of Off-State Voltage at Commutation	(dv/dt)c	Tj=150℃		MIN	8		V/us

■ Static parameters

SYMBOL	PARAMETER			RATINGS	UNIT
V_{TM}	Peak On-State Voltage (Note 1)	Tj=25℃ ITM=16A	MAX	1.40	V
V_{T0}	Threshold voltage	Tj=150℃	MAX	0.86	V
Rd	Resistance	Tj=150℃	MAX	36.6	mΩ
I_{DRM} I_{RRM}	Repetitive Peak Off-State Current	Tj=25℃ Tj=150℃	MAX	5	uA
				1	mA
$R_{th(j-c)}$	Junction to Case (DC)	BTA		2.05	℃/W
		BTB		1.25