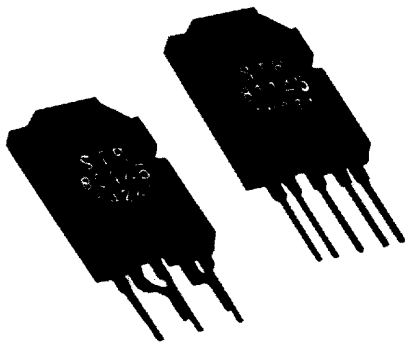
T-58-29

STR 80000 Series

Hybrid Auto-Switch Module—Doubler

Features

- For automatic switch-over from voltage-doubler to bridge rectification and from bridge rectification to voltage doubler
- With a planar triac incorporated
- Fixed switch-over voltage
- Plastic package (transfer mold)



External View

Applications

- PC and other OA equipment
- Test equipment
- TV monitors
- Telecommunication equipment

■Absolute Maximum Ratings (Ta = 25°C)

Description	Symbol	Unit	Conditions	Ratings	
				STR80145A	STR81145A, STR81159A
Peak Repetitive Off-state Voltage	V DRM	V	Tj = −10 ~ +125 °C	500	
Static On-state Current	I T(RMS)	A	Tj = 125°C Conduction Angle = 360°	5.0	10.0
Surge On-state Current	I TMS	A	TJ = 125°C 50Hz, Full Sine Wave Peak Value, Non-repetitive	50	100
Operating Temperature*	Top	°C		−10 ~ +100(Tc)	
Storage Temperature	Tstg	°C		−30 ~ +125	
Junction Temperature	Tj	°C		+125	

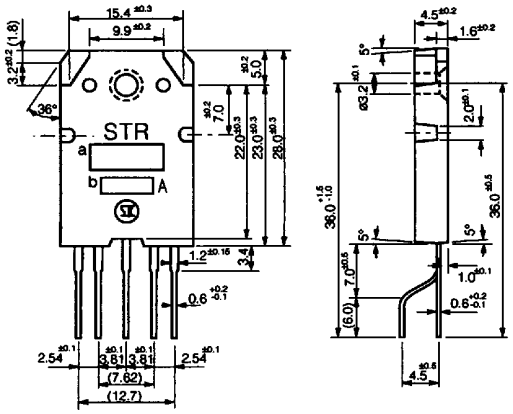
*Temperature of Frame

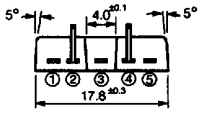
■Electrical Characteristics (Ta = 25°C)

Description		Symbol	Unit	Conditions	Ratings	
					STR80145A, STR81145A	STR81159A
Starting Voltage of Voltage-Doubler		Vs	V(AC)	Test Circuit 2	80 Max	
Fixed Switchover Voltage	1	VC1	V	Test Circuit 1	196 ± 5	215 ± 5
	2	VC2	V(AC)	Test Circuit 2	145	159
Temperature Coefficient of Switch-over Voltage		Kt	mV/°C	Test Circuit 1 Tc = −20 ~ +100 °C	−30 Typ	
Off-state Current		I DRM	μA	VD = V DRM, RGK = ∞	100 Max	
On-state Voltage		V TM	V	I TM = 5A	1.8 Max	
Thermal Resistance		θj-c	°C/W	Between Junction and Frame	1.8	

**VC2 is just a reference value.

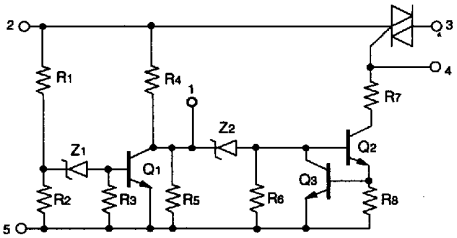
■Outline Drawings. Dimensions and Pin Connections





1. Delay
2. T1
3. T2
4. Gate
5. Common

■Equivalent Circuit



1. Delay
2. T1
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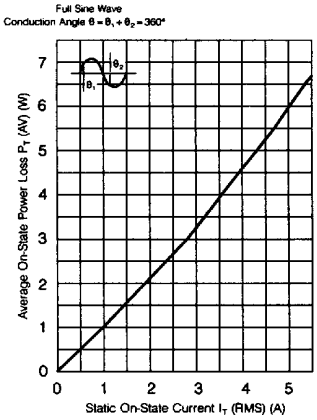
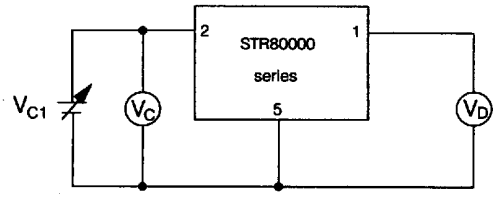
■PT(AV)-IT(RMS) Characteristics

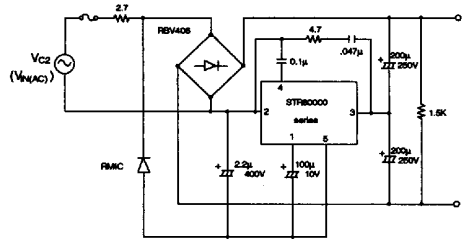


■Fixed Output Voltage Test Circuit (Test Circuit 1)

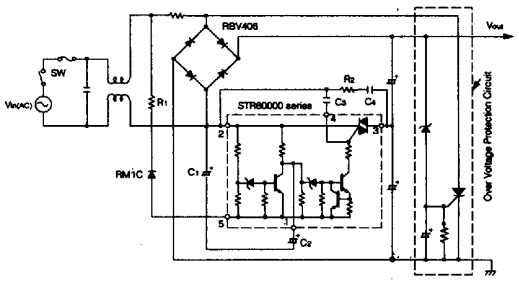


Fixed switch over voltage 1 is defined as voltage which gets V_D being 3V.

■Actual Working Circuit (Test Circuit 2)



■Application Circuit Example



Circuit Constants (Recommended Value)
R_1: 2.2Ω R_2: 4.7Ω
C_1: 2.2μF/400V C_2: 100μF/10V
C_3: 0.1μF C_4: 0.047μF

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