

STR 80000 Series

T-58-29

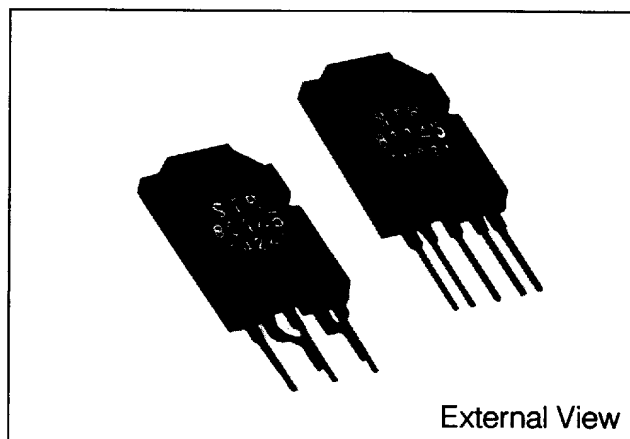
Hybrid Auto-Switch Module—Doubler

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)

Applications

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



External View

Absolute Maximum Ratings (Ta = 25°C)

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

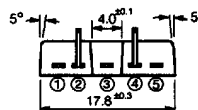
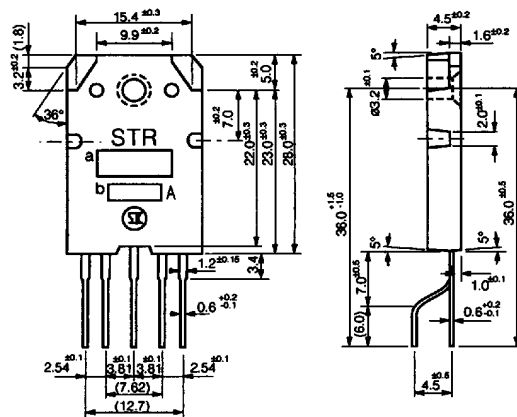
* Temperature of Frame

Electrical Characteristics (Ta = 25°C)

Description	Symbol	Unit	Conditions	Ratings	
				STR80145A, STR81145A	STR81159A
Starting Voltage of Voltage-Doubler	V _s	V(AC)	Test Circuit 2	80 Max	
Fixed Switchover Voltage	1	VC1	Test Circuit 1	196 ± 5	215 ± 5
	2	VC2	Test Circuit 2	145	159
Temperature Coefficient of Switch-over Voltage	K _t	mV/°C	Test Circuit 1 T _c = -20 ~ +100 °C	-30 Typ	
Off-state Current	I _{DRM}	μA	V _D = V _{DRM} , R _{GK} = ∞	100 Max	
On-state Voltage	V _{TM}	V	I _{TM} = 5A	1.8 Max	
Thermal Resistance	θ _{j-c}	°C/W	Between Junction and Frame	1.8	

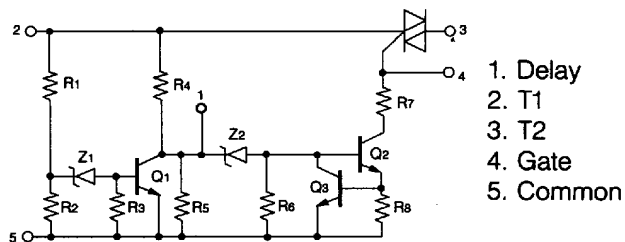
** VC2 is just a reference value.

■ Outline Drawings, Dimensions and Pin Connections

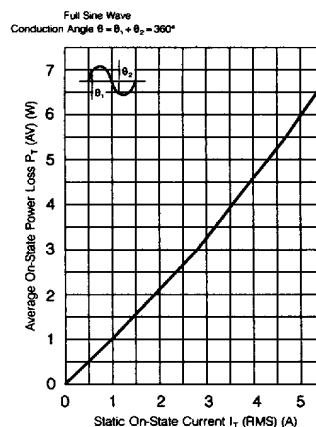


1. Delay
2. T1
3. T2
4. Gate
5. Common

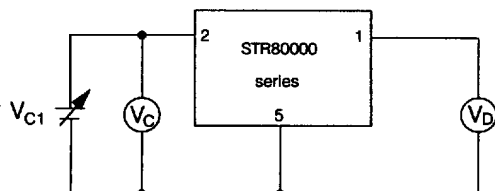
■ Equivalent Circuit



■PT(AV)-IT(RMS) Characteristics

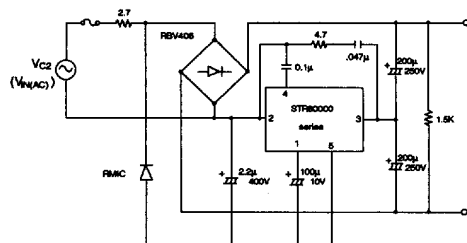


■ Fixed Output Voltage Test Circuit (Test Circuit 1)

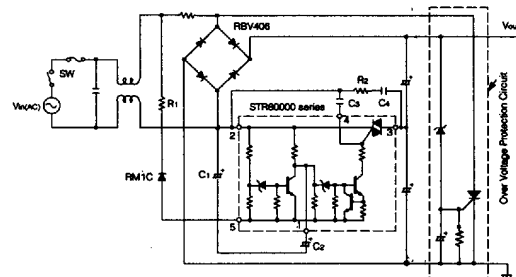


Fixed switch over voltage 1 is defined as voltage which gets V_D being 3V.

■ Actual Working Circuit (Test Circuit 2)



■ Application Circuit Example



Circuit Constants (Recommended Value)

$R_1: 2.2\Omega$ $R_2: 4.7\Omega$
 $C_1: 2.2\mu F/400V$ $C_2: 100\mu F/10V$
 $C_3: 0.1\mu F$ $C_4: 0.047\mu F$