

STTH16003TV

HIGH FREQUENCY SECONDARY RECTIFIER

PRELIMINARY DATASHEET

MAJOR PRODUCTS CHARACTERISTICS

I _{F(AV)}	2 x 80 A
V _{RRM}	300 V
Tj (max)	175 °C
V _F (max)	0.95 V
trr (max)	80 ns

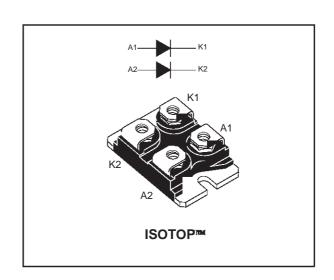
FEATURES AND BENEFITS

- COMBINES HIGHEST RECOVERY AND VOLTAGE PERFORMANCE
- ULTRAFAST, SOFT AND NOISE-FREE RECOVERY FOR LOW SIDE EFFECTS
- ISOLATED PACKAGE: 2500 V_{RMS} (UL APPROVAL PENDING DEVICE)
- LOW INDUCTANCE AND LOW CAPACITANCE ALLOW SIMPLER LAYOUT



Dual rectifiers suited for Switch Mode Power Supply and high frequency DC to DC converters. Packaged in ISOTOPTM, this device is intended for use in low voltage, high frequency inverters, free

use in low voltage, high frequency inverters, free wheeling operation, welding equipments and telecompower supplies.



ABSOLUTE RATINGS (limiting values, per diode)

Symbol	Parameter	Value	Unit		
V _{RRM}	RRM Repetitive peak reverse voltage				V
IF(RMS)	RMS forward current				Α
I _{F(AV)}	Average forward current	$Tc = 80^{\circ}C$ $\delta = 0.5$	Per diode Perdevice	80 160	Α
IFSM	Surge non repetitive forward current	non repetitive forward current tp = 10 ms sinusoidal			Α
I _{RSM}	Non repetitive peak reverse current tp = 100 μs square			10	Α
T _{stg}	Storage temperature range	- 55 to + 150	°C		
Tj	Maximum operating junction temperature			150	°C

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THERMAL RESISTANCES

Symbol	Parameter			Unit
R _{th (j-c)}	Junction to case	Per diode Total	0.7 0.4	°C/W
R _{th (c)}		Coupling	0.1	

When the diodes 1 and 2 are used simultaneously:

 ΔT_j (diode 1) = P (diode 1) x $R_{th(j-c)}$ (per diode) + P (diode 2) x $R_{th(C)}$

STATIC ELECTRICAL CHARACTERISTICS (per diode)

Symbol	Parameter	Tests conditions		Min.	Тур.	Max.	Unit
I _R *	Reverse leakage	V _R = 300 V	Tj = 25°C			200	μА
	current		Tj = 125°C		0.2	2	mA
V _F **	Forward voltage drop	IF = 80 A	Tj = 25°C			1.2	V
			Tj = 125°C		0.8	0.95	

Pulse test: * tp = 5 ms, δ < 2 %

** tp = 380 μ s, δ < 2%

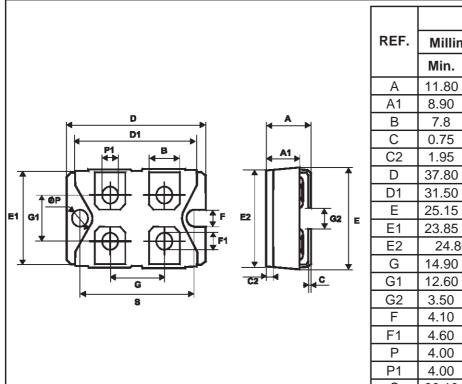
To evaluate the maximum conduction losses use the following equation:

 $P = 0.75 \times I_{F(AV)} + 0.0025 \times I_{F}^{2}_{(RMS)}$

RECOVERY CHARACTERISTICS

Symbol	Tests conditions			Тур.	Max.	Unit
trr	I _F = 0.5 A I _T = 0.25 A I _R = 1A T _j = 25°C				60	ns
	$I_F = 1 \text{ A}$ $dI_F/dt = -50 \text{ A/}\mu\text{s}$ $V_R = 30 \text{ V}$				80	
tfr	I _F = 80 A	Tj = 25°C			1000	ns
V _{FP}	$V_{FR} = 1.1 \text{ x } V_F \text{ max.}$				5	V
Sfactor	Vcc = 200 V	Tj = 125°C		0.3		-
I _{RM}	$dI_F/dt = 200 A/\mu s$				16	Α

PACKAGE MECHANICAL DATA ISOTOP



	DIMENSIONS			
REF.	Millim	neters	Inc	hes
	Min.	Max.	Min.	Max.
Α	11.80	12.20	0.465	0.480
A1	8.90	9.10	0.350	0.358
В	7.8	8.20	0.307	0.323
С	0.75	0.85	0.030	0.033
C2	1.95	2.05	0.077	0.081
D	37.80	38.20	1.488	1.504
D1	31.50	31.70	1.240	1.248
E	25.15	25.50	0.990	1.004
E1	23.85	24.15	0.939	0.951
E2	24.80	O typ.	0.976 typ.	
G	14.90	15.10	0.587	0.594
G1	12.60	12.80	0.496	0.504
G2	3.50	4.30	0.138	0.169
F	4.10	4.30	0.161	0.169
F1	4.60	5.00	0.181	0.197
Р	4.00	4.30	0.157	0.69
P1	4.00	4.40	0.157	0.173
S	30.10	30.30	1.185	1.193

Cooling method: by conduction (C)Recommended torque value: 1.3 N.m.

■ Maximum torque value: 1.5 N.m.

Туре	Marking	Package	Weight	Base qty	Delivery mode
STTH16003TV1	STTH16003TV	ISOTOP	27 g	10	Tube
			without screws	with screws	

■ Epoxy meets UL 94,V0

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