



# SVT12120U

## EXTREME LOW VF SCHOTTKY BARRIER RECTIFIER

**Voltage**

**120 V**

**Current**

**12 A**

**TO-277**

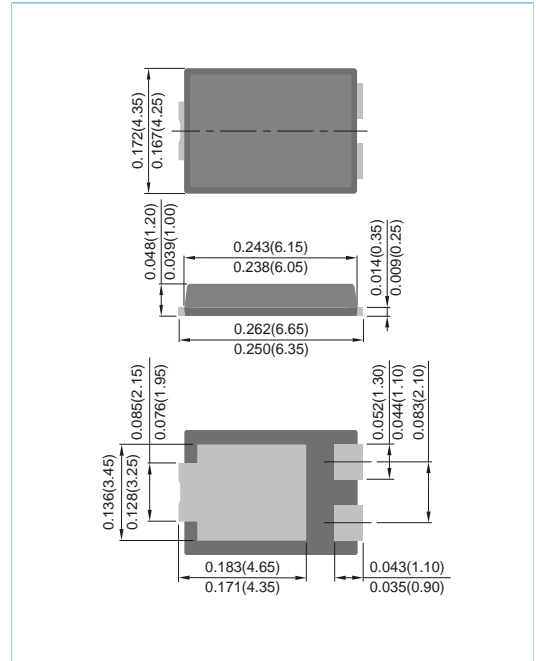
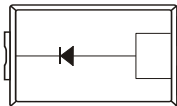
Unit : inch(mm)

### Features

- Ideal for automated placement
- Extreme low forward voltage drop, low power loss
- High efficiency operation
- Low thermal resistance
- Ultra thin profile package for space constrained utilization
- Easy pick and place package suitable for automated handling
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### Mechanical Data

- Case: TO-277 package
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Weight: 0.00379 ounces, 0.1073 grams.
- Marking: Part number



### Maximum Ratings And Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	120	V
Maximum rms voltage	$V_{RMS}$	84	V
Maximum dc blocking voltage	$V_R$	120	V
Maximum average forward rectified current	$I_{F(AV)}$	12	A
Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	200	A
Typical thermal resistance	(Note 1) $R_{\theta JA}$	110	$^{\circ}\text{C/W}$
	(Note 2) $R_{\theta JC}$	3	
Operating junction temperature range	$T_J$	-55 to +150	$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

- Note : 1. Mounted on a FR4 PCB, single-sided copper, mini pad.  
2. Mounted on a 10cm\*10cm\*1mm copper pad area



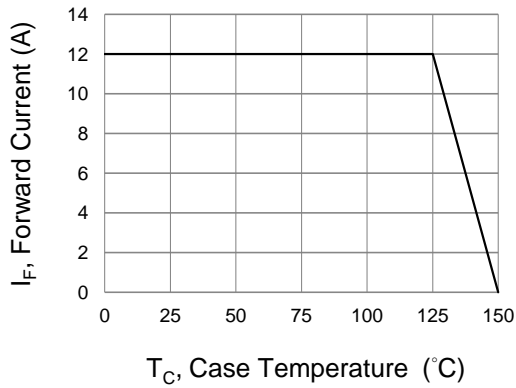
## SVT12120U

Electrical Characteristics ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

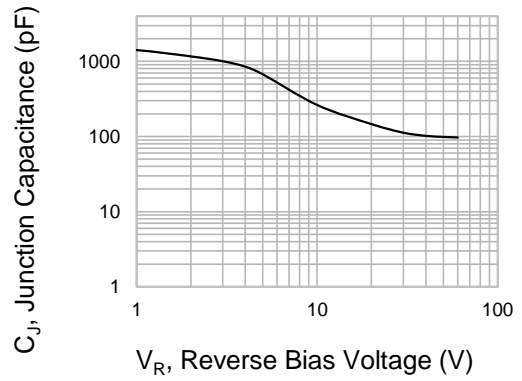
PARAMETER	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNITS
Breakdown voltage	$V_{BR}$	$I_R=0.5\text{mA}$	$T_J=25^{\circ}\text{C}$	120	-	-	V
Instantaneous forward voltage	$V_F$	$I_F=1\text{A}$	$T_J=25^{\circ}\text{C}$	-	0.47	-	V
		$I_F=5\text{A}$		-	0.64	-	
		$I_F=12\text{A}$		-	0.74	0.79	
		$I_F=1\text{A}$	$T_J=125^{\circ}\text{C}$	-	0.37	-	V
$I_F=5\text{A}$	-	0.52		-			
Reverse current	$I_R$	$V_R=96\text{V}$	$T_J=25^{\circ}\text{C}$	-	3	-	$\mu\text{A}$
		$V_R=120\text{V}$	$T_J=25^{\circ}\text{C}$	-	-	25	$\mu\text{A}$
			$T_J=125^{\circ}\text{C}$	-	5	-	mA



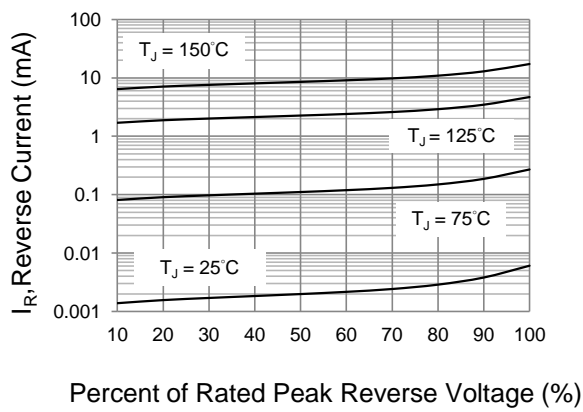
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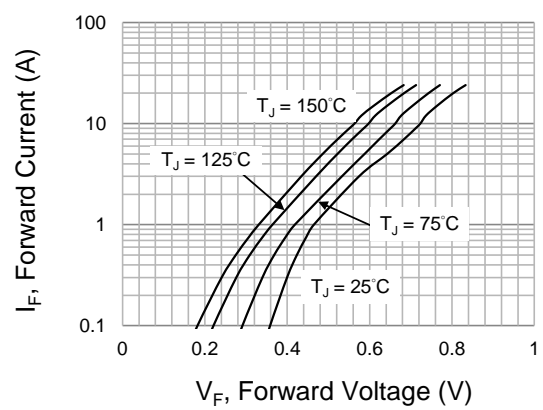
**Fig.1 Forward Current Derating Curve**



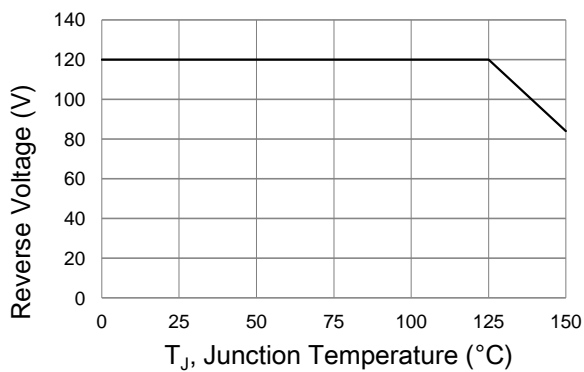
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**

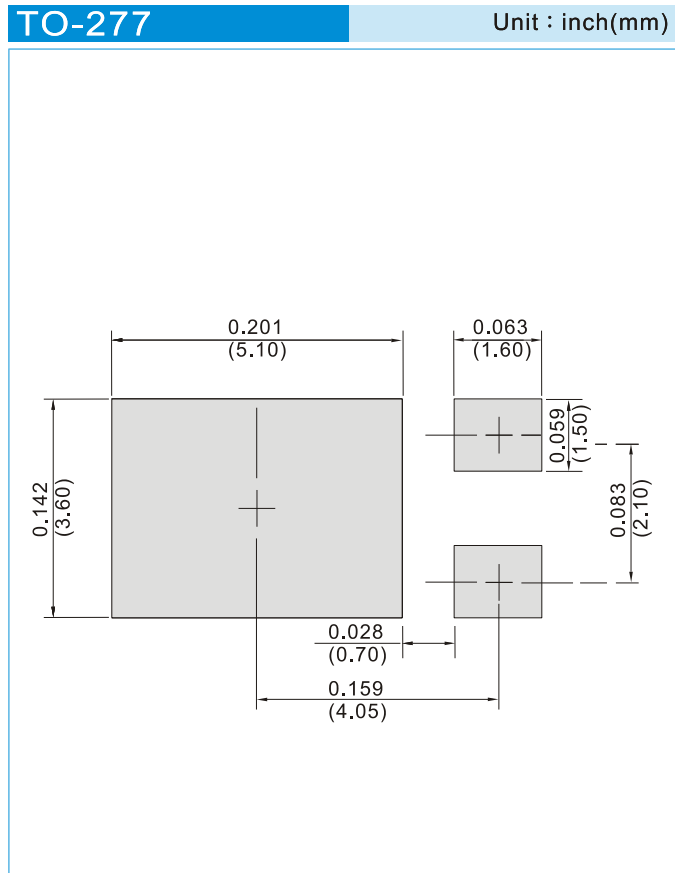


**Fig.5 Operating Temperature Derating Curve**



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information  
T/R – 5K per 13" plastic Reel



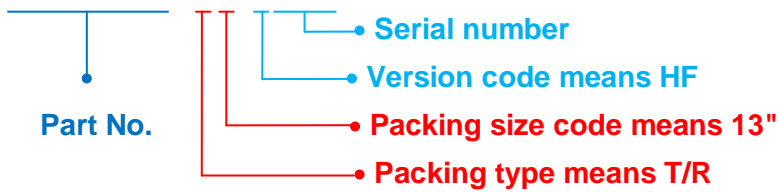
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Part No\_packing code\_Version

SVT12120U\_R2\_00001

For example :

RB500V-40\_R2\_00001



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> -5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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