

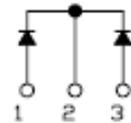
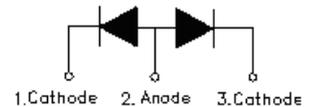
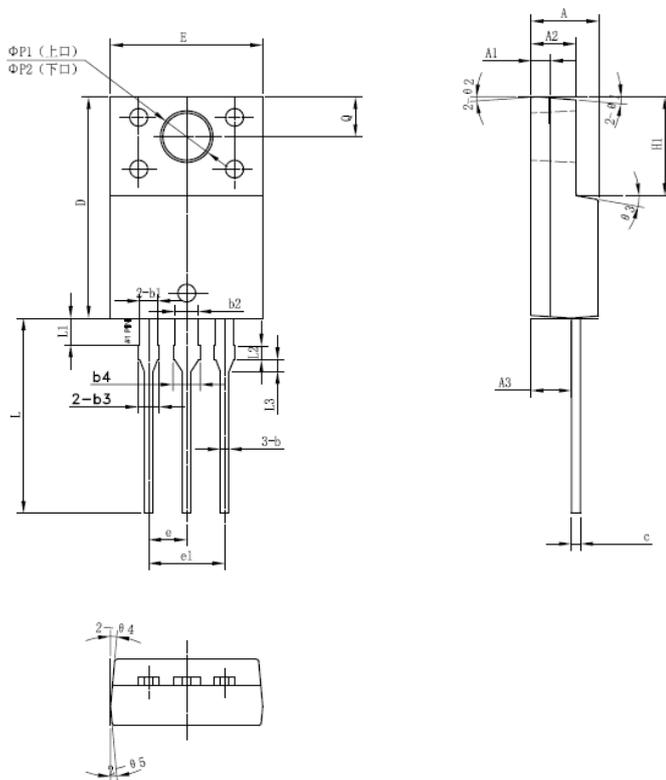
STF40120C(R) SCHOTTKY RECTIFIER

Applications:

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

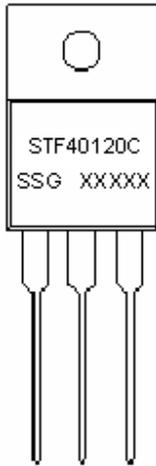
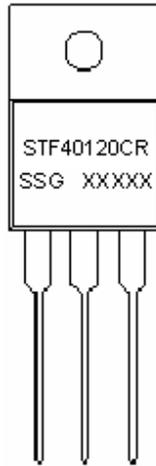
- 150 °C T_J operation
- Center tap configuration
- Ultralow forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request


STF40120C

STF40120CR
Mechanical Dimensions: In mm


SYMBOL	MIN.	TYP.	MAX.
A	4.30	4.50	4.70
A1	1.10	1.30	1.50
A2	2.80	3.00	3.20
A3	2.50	2.70	2.90
b	0.50	0.60	0.75
b1	1.10	1.20	1.35
b2	1.50	1.60	1.75
b3	1.20	1.30	1.45
b4	1.60	1.70	1.85
c	0.55	0.60	0.75
D	14.80	15.00	15.20
E	9.96	10.16	10.36
e		2.55	
e1		5.10	
H1	6.50	6.70	6.90
L	12.70	13.20	13.70
L1	1.60	1.80	2.00
L2	0.80	1.00	1.20
L3	0.60	0.80	1.00
$\Phi P1$ (上口)	3.30	3.50	3.70
$\Phi P2$ (下口)	2.99	3.19	3.39
Q	2.50	2.70	2.90
$\theta 1$		5°	
$\theta 2$		4°	
$\theta 3$		10°	
$\theta 4$		5°	
$\theta 5$		5°	

ITO-220AB

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - sales@smc-diodes.com •

Marking Diagram:

STF40120C

STF40120CR

Where XXXXX is YYWWL

S	= Device Type
T	= Ultralow VF
F	= Package type
40	= Forward Current (40A)
120	= Reverse Voltage (120V)
C(R)	= Configuration
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

Cautions: Molding resin
 Epoxy resin UL: 94V-0

Ordering Information:

Device	Package	Shipping
STF40120C(R)	ITO-220AB (Pb-Free)	50pcs / tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	120	V
Average Forward Current (per device)	$I_{F(AV)}$	50% duty cycle @ $T_C=74^\circ\text{C}$ rectangular wave form	40	A
Peak One Cycle Non- Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	250	A



Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (per leg) *	V _{F1}	@ 5A, Pulse, T _J = 25 °C	0.50	-	V
		@ 10A, Pulse, T _J = 25 °C	0.64	-	
		@ 20A, Pulse, T _J = 25 °C	0.87	0.97	
	V _{F2}	@ 5A, Pulse, T _J = 125 °C	0.46	-	V
@ 10A, Pulse, T _J = 125 °C	0.57	-			
@ 20A, Pulse, T _J = 125 °C	0.68	0.76			
Reverse Current (per leg)*	I _{R1}	@V _R = rated V _R T _J = 25 °C	33	500	uA
	I _{R2}	@V _R = rated V _R T _J = 125 °C	6	45	mA
Junction Capacitance (per leg)	C _T	@V _R = 5V, T _C = 25 °C f _{SIG} = 1MHz	608	-	pF

* Pulse Width < 300µs, Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T _J	-	-55 to +150	°C
Storage Temperature	T _{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case(per leg)	R _{θJC}	DC operation	4.0	°C/W
Approximate Weight	wt	-	2	g
Case Style	ITO-220AB			

Figure 1
Typical Forward Characteristics

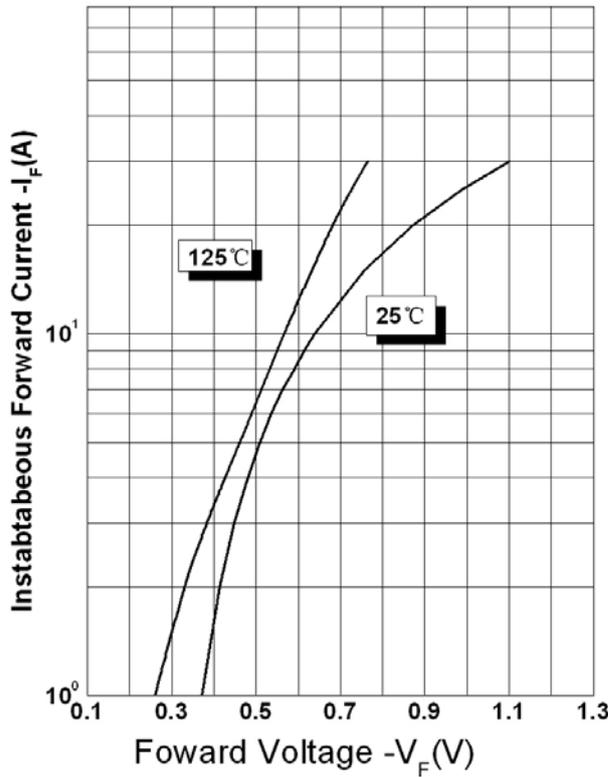


Figure 2
Typical Reverse Characteristics

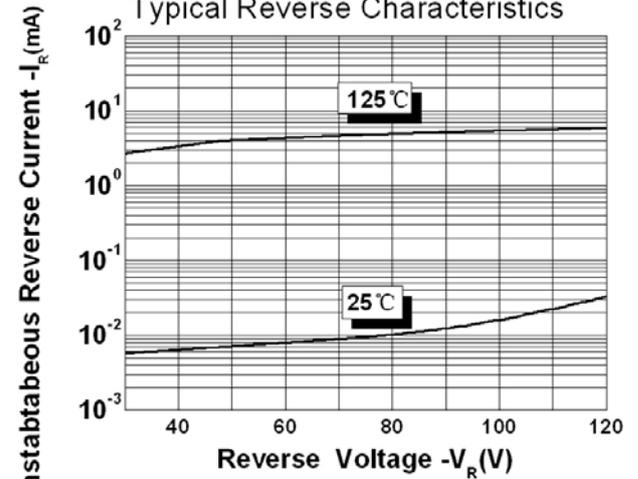
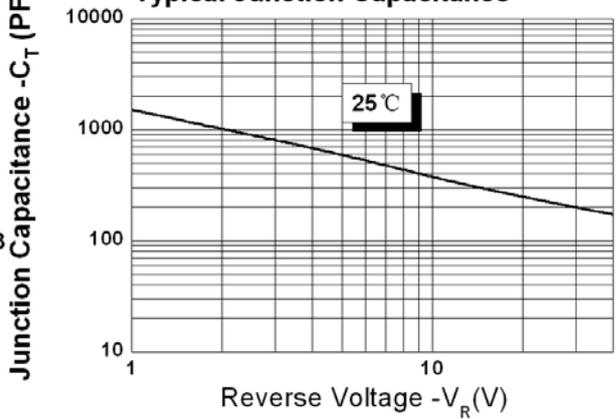


Figure 3
Typical Junction Capacitance





STF40120C(R)

**Technical Data
Data Sheet N1382, Rev. B**

Green Products

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