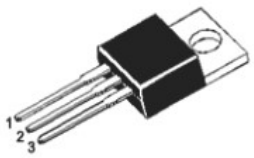
SI40L100CT

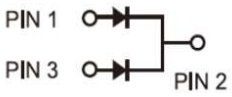
Features

Voltage	100 V
Current	20*2 A

- ●Ultra Low Forward Voltage Drop
- ●Excellent High Temperature Stability
- ●Patented Super Barrier Rectifier Technology
- ●Soft, Fast Switching Capability

Pin Description





Mechanical Data

- ●Case: TO-220AB
- ●Case Material: Molded Plastic, UL Flammability ClassificationRating 94V-0
- ●Terminals: Matte Tin Finish annealed over Copper lead frame.

Solderable per MIL-STD-202, Method 208

Part No.	Package	Marking	ROHS Status	Packing
SI40L100CT	TO-220AB	SI40L100CT	Pb-Free	50PCS/(Tube)

MAXIMUM RATINGS(T_A=25 °C unless otherwise noted)

Parameter		Symbol	Value	Units
Maximum Recurrent Peak Reverse Voltage		V_{RRM}	**100**	V
Maximum RMS Voltage		V_{RMS}	**105**	V
Maximum average forward rectified current	per device	$I_{F(AV)}$	**40**	A
	per diode		20	
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated		I_{FSM}	**300**	A
Typical Thermal Resistance		$R_{\theta JC}$	**1.5**	℃/W
Operating Junction and Storage Temperature Range		T_J ,T_{STG}	**-55 to150**	℃

Note :

1. Mounted on infinite heatsink.

ELECTRICAL CHARACTERISTICS (T_A=25 °C unless otherwise noted)

Symbol	Parameter	Test Conditions		Min	TYP	Max	Unit
Static Characteristics							
V_{BR}	Breakdown voltage per diode	I_R =100uA , T_J=25 °C		100	-	-	V
V_F	Instantaneous forward voltage per diode	I_F=2A	T_J=25 °C	-	0.39	-	V
		I_F=5A		-	0.448	0.48	
		I_F=20A		-	0.652	0.69	
		I_F=20A	T_J=125 °C	-	0.63	-	V
I_R	Reverse current per diode	V_R=70V, T_J=25 °C		-	5	-	uA
		V_R=100V	T_J=25 °C	-	-	50	uA
			T_J=125 °C	-	8.2	-	mA

RATING AND CHARACTERISTIC CURVES

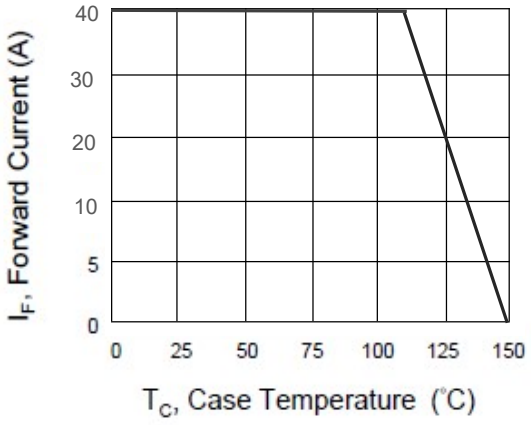


Fig.1 Forward Current Derating Curve

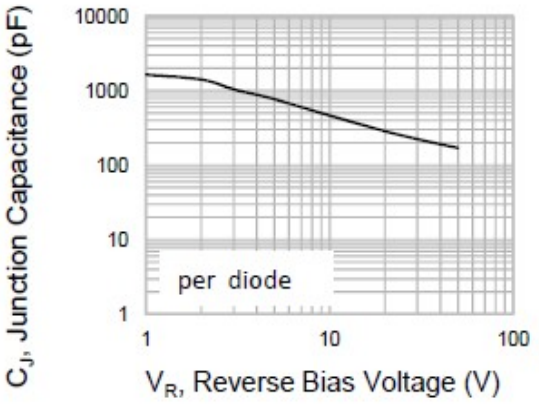


Fig.2 Typical Junction Capacitance

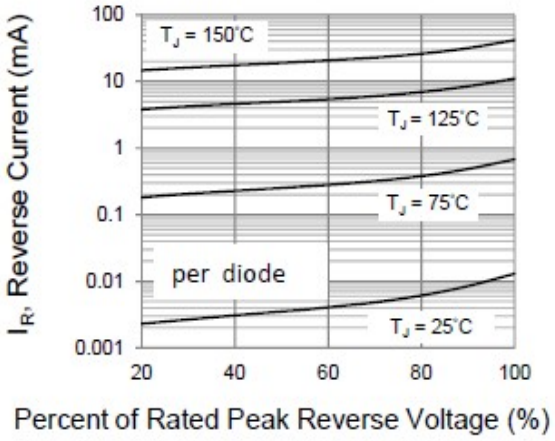


Fig.3 Typical Reverse Characteristics

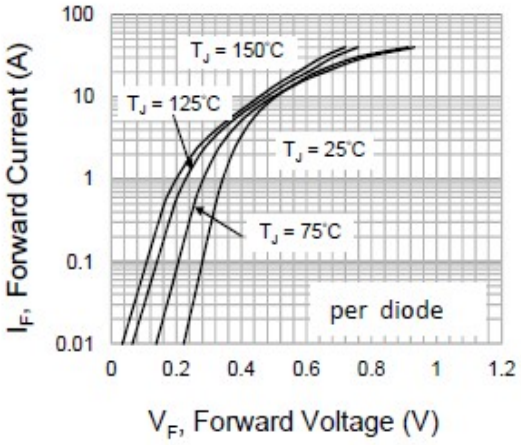
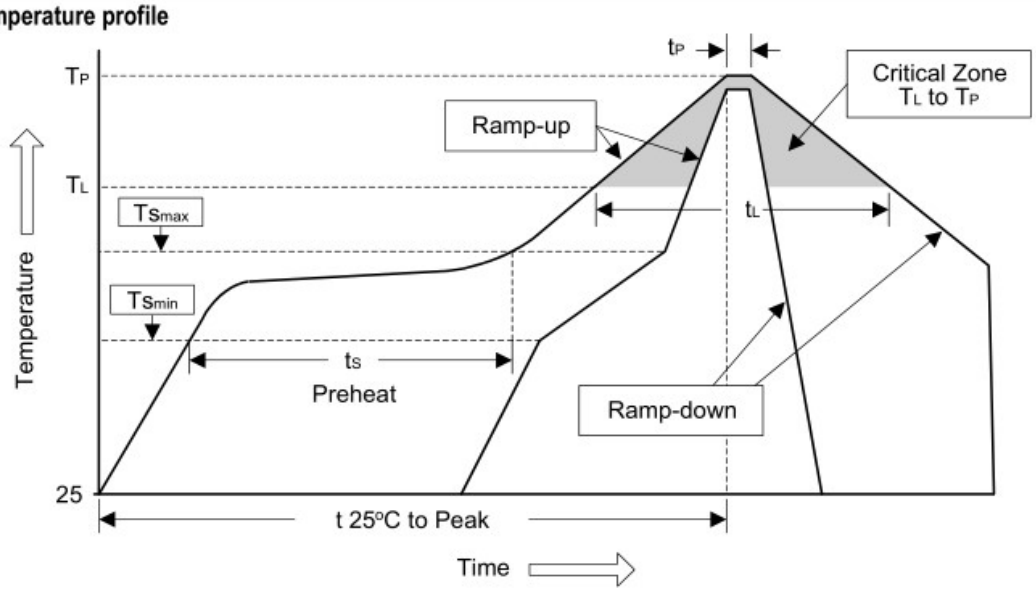


Fig.4 Typical Forward Characteristics

Soldering Methods for Products

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average ramp-up rate(TL to TP)	<3℃/sec	<3℃/sec
Preheat -Temperature Min(Ts min) -Temperature Max(Ts max) -Time(min to max)(ts)	 100℃ 150℃ 60 to 120 sec	 150℃ 200℃ 60 to 180 sec
Ts max to TL - ramp-up rate	 <3℃/sec	 <3℃/sec
Time maintained above: -Temperature(TL) -Time(t L)	 183℃ 60 to 150 sec	 217℃ 60 to 150 sec
Peak Temperature(T p)	240℃+0/-5℃	250℃+0/-5℃
Time within 5℃ of actual Peak Temperature	10 to 30 sec	20 to 40 sec
Ramp-down Rate	<6℃/sec	<6℃/sec
Time 25 ℃ to Peak Temperature	<6 minutes	<8 minutes

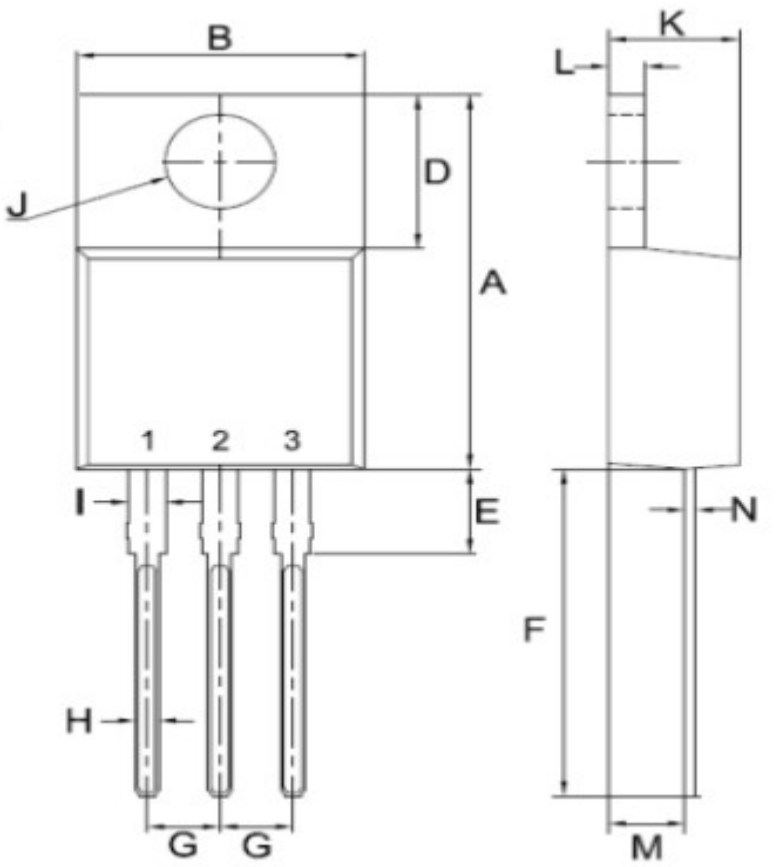
Figure 1: Temperature profile



Note :1.Storage environment: Temperature=10℃ to 35@Humidity=45%±15%
2.Reflow soldering of surface-mount devices
3.Flow(wave) soldering(solder dipping)

Products	Peak Temperature	Dipping Time
Pb devices	245℃±5℃	5sec±1sec
Pb-free devices	250℃+0/-5℃	5sec±1sec

Package Outline



TO-220AB Unit:mm		
DIM	MIN	MAX
A	14.80	15.80
B	9.57	10.57
D	5.80	6.80
E	2.95	3.95
F	12.70	13.40
G	2.34	2.74
H	0.51	1.11
I	0.97	1.57
J	3.54Φ	4.14Φ
K	4.27	4.87
L	1.07	1.47
M	2.03	2.92
N	0.30	0.64

Important Notice

Si-Trend reserves the right to change all product、product specifications and data without prior notice；Our customer Please confirm to place an order confirmation before make the integrity of information complete and up-to-date.

Any semiconductor under specific conditions are possible to certain failure or malfunction rate； Customers are responsible in the use of Si-Trend products to system design and manufacturing in compliance with safety standards and adopting safety measures，To avoid the potential risk of failure may cause the personal safety and property loss.

Si-Trend Always refine on to provide more excellent products.

Modify record

Date	Version	Description	Pagination
20160626	A.0	original	5
20160720	A.1	original	5