

Main Product Characteristics

$I_{F(AV)}$	20A
V_{RRM}	120V
T_J	150°C
$V_{F(Typ)}$	0.61V

■Features

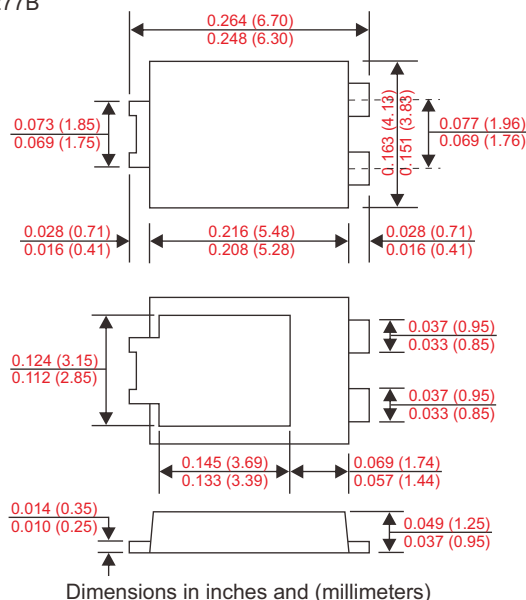
- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Halogen-free part.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, TO-277B .
- Lead : Solder plated, solderable per MIL-STD-750, Method 2026
- Weight : Approximated 0.09 grams.

■Outline

TO-277B



■Circuit Diagram



■ Maximum Ratings

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Conditions	Symbol	CP20L120SG	UNIT
Working Peak Reverse Voltage		V_{RRM}	120	V
Forward Rectified Current		I_O	30	A
Forward Surge Current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}	250	A
Peak Repetitive Reverse Surge Current	Pulse width 2us, 1000Hz, square wave at T_A 25°C, 10 cycles	I_{RRM}	2	A
Thermal Resistance	Junction to case	R_{BJC}	6	°C/W
	Junction to ambient	R_{BJA}	70	°C/W
Storage Temperature		T_{STG}	-55 ~ +150	°C
Junction Temperature		T_J	-55 ~ +150	°C

■ Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward Voltage Drop	$I_F = 3A, T_J = 25^\circ C$	V_F		450		mV
	$I_F = 20A, T_J = 25^\circ C$			730	790	
	$I_F = 20A, T_J = 125^\circ C$			610		
Reverse Current	$V_R = V_{RRM}, T_J = 25^\circ C$	I_R		20	120	uA
	$V_R = V_{RRM}, T_J = 125^\circ C$			18	42	mA
Reverse Breakdown Voltage	$I_R = 0.1mA, T_J = 25^\circ C$	V_{BR}	120			V

■ Rating and Characteristic Curves

Fig. 1 - Forward Characteristics

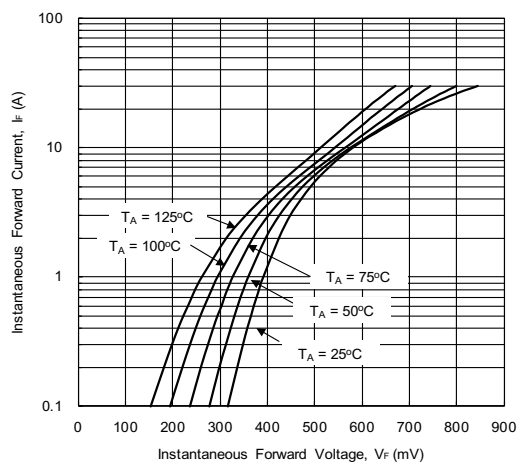


Fig. 2 - Reverse Characteristics

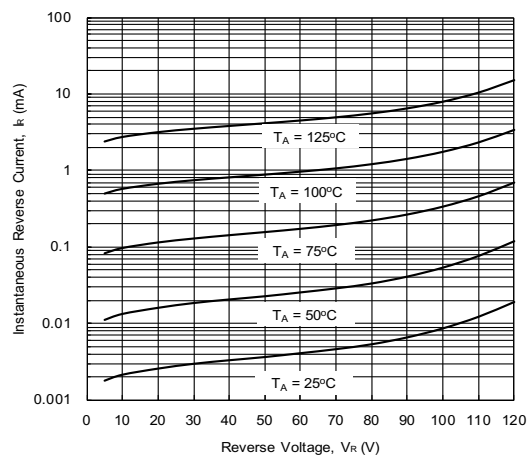


Fig. 3 - Forward Power Dissipation

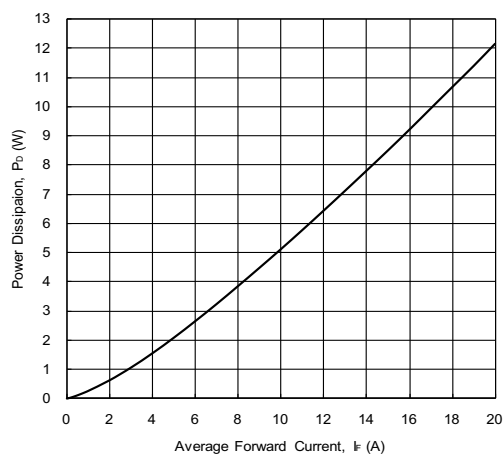


Fig. 4 - Forward Current Derating Curve

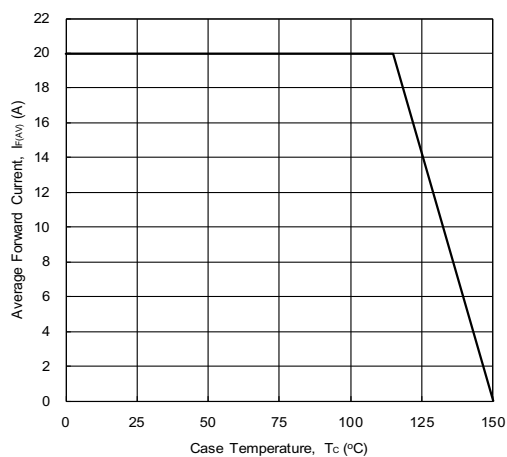
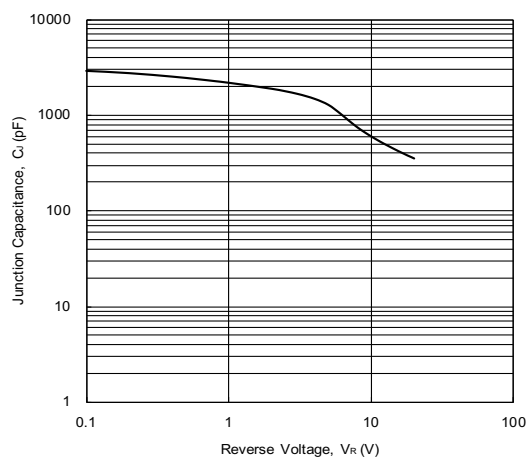
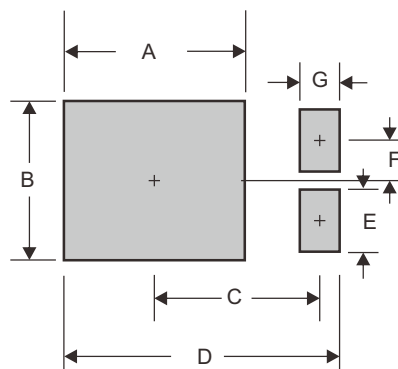


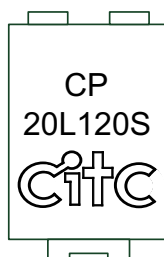
Fig. 5 - Junction Capacitance



■TO-277B foot print



■Marking information



CP20L120S: Product type marking code

 : CITC Logo

A	B	C	D	E	F	G
0.185 (4.70)	0.142 (3.60)	0.152 (3.87)	0.260 (6.60)	0.055 (1.40)	0.035 (0.90)	0.031 (0.80)

Dimensions in inches and (millimeters)

■Ordering/Packing information

Part number	Case	Q'TY/Reel (PCS)	Q'TY/Box (PCS)	Q'TY/Carton(PCS)
 CP20L120SG	TO-277B	5,000	10,000	40,000

Notes : 1. Halogen-Free product.

2. Halogen-Free defined follow IEC61249-2-21

3. For packaging details, please reference our website at <http://www.citcorp.com.tw/tchinese/products/index.php>

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