

### ■ Features

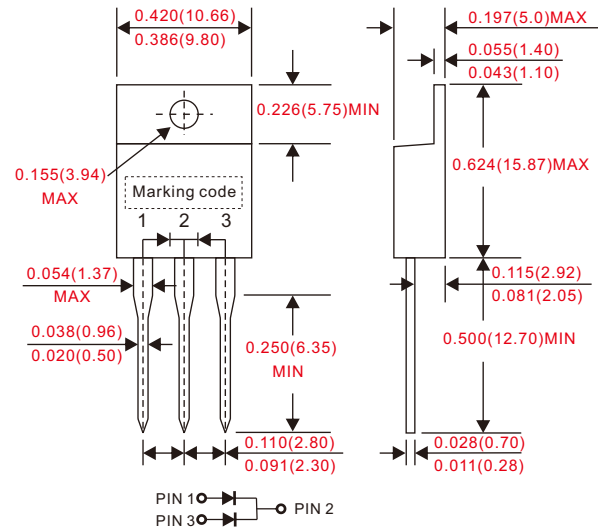
- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Suffix "G" indicates Halogen-free part, ex. CS20S50CTG-A.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### ■ Mechanical data

- Epoxy : UL94-V0 rated flame retardant.
- Case : JEDEC TO-220AB molded plastic body.
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity : As marked.
- Mounting Position : Any.
- Weight : Approximated 2.25 gram.

### ■ Outline

TO-220AB



Dimensions in inches and (millimeters)

### ■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Conditions	Symbol	CS20S50CT-A	UNIT
Marking code			CS20S50CT	
Peak repetitive reverse voltage		$V_{RRM}$	50	V
Working peak reverse voltage		$V_{RWM}$		
DC blocking voltage		$V_{RM}$		
Forward rectified current (total device)	$T_c = 110^\circ\text{C}$	$I_O$	20	A
Forward surge current (per diode)	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$	280	A
Peak repetitive reverse surge current (per diode)	2us - 1kHz	$I_{RRM}$	3	A
Thermal resistance(1) (per diode)	Junction to case	$R_{BJC}$	4	°C/W
Operating and Storage temperature		$T_J, T_{STG}$	-65 ~ +150	°C

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage drop (per diode)	$I_F = 10\text{A}, T_J = 25^\circ\text{C}$	$V_F$			470	mV
	$I_F = 10\text{A}, T_J = 125^\circ\text{C}$				440	
	$I_F = 20\text{A}, T_J = 25^\circ\text{C}$				600	
Reverse current (per diode)	$V_R = V_{RRM}, T_J = 25^\circ\text{C}$	$I_R$			0.5	mA
	$V_R = V_{RRM}, T_J = 125^\circ\text{C}$				100	

Note : 1. Thermal resistance from junction to case per leg, with heatsink size (1.35" x 0.95" x 0.18") Al-plate.

■ Rating and characteristic curves

Fig.1 - Forward Current Derating Curve (per diode)

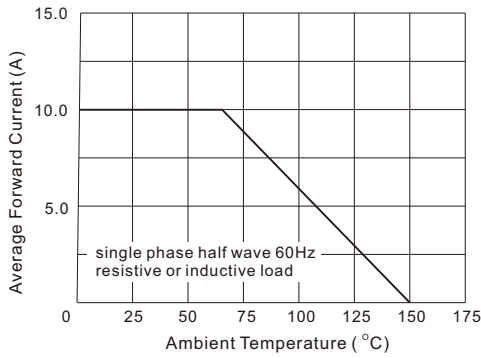


Fig. 2 - Instantaneous Forward Characteristics (per diode)

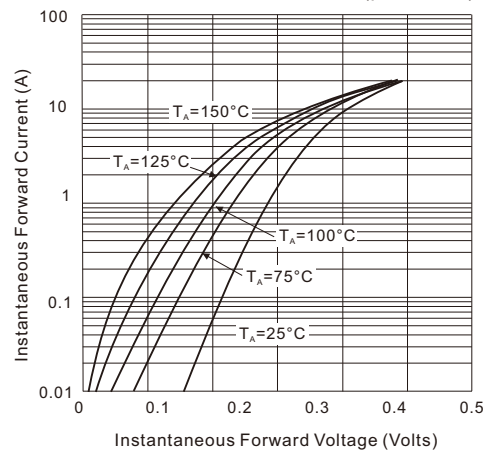


Fig. 3 - Reverse Characteristics (per diode)

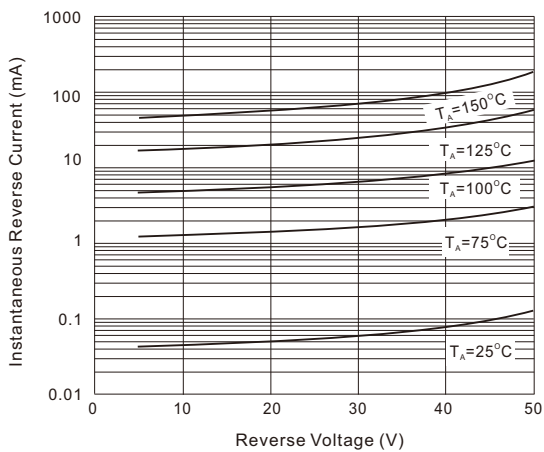
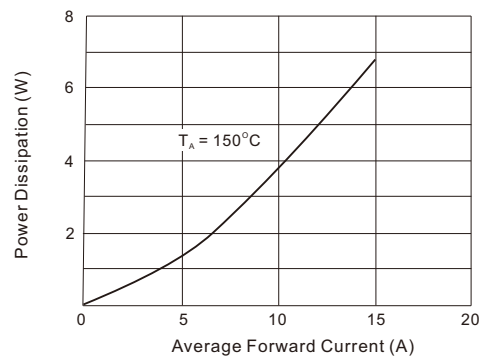


Fig.4 - Forward Power Dissipation (per diode)



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