

### ■ Features

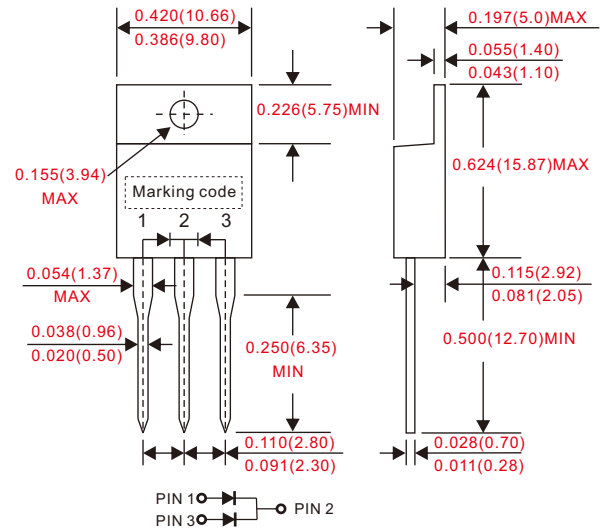
- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Suffix "G" indicates Halogen-free part, ex. CS10S40CTG-A.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### ■ 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



### ■ 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	CS10S40CT-A	CS10S45CT-A	UNIT
Marking code			CS10S40CT	CS10S45CT	
Peak repetitive reverse voltage		$V_{RRM}$			
Working peak reverse voltage		$V_{RWM}$	40	45	V
DC blocking voltage		$V_{RM}$			
Forward rectified current (total device)	$T_c = 110^\circ\text{C}$	$I_O$	10		A
Forward surge current (per diode)	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$	150		A
Peak repetitive reverse surge current (per diode)	2us - 1kHz	$I_{RRM}$	3		A
Thermal resistance(1) (per diode)	Junction to case	$R_{BJC}$	2		$^\circ\text{C}/\text{W}$
Operating and Storage temperature		$T_J, T_{STG}$	-65 ~ +150		$^\circ\text{C}$

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage drop (per diode)	$I_F = 5\text{A}, T_J = 25^\circ\text{C}$	$V_F$			435	mV
	$I_F = 5\text{A}, T_J = 125^\circ\text{C}$			350	380	
	$I_F = 10\text{A}, T_J = 25^\circ\text{C}$				520	
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 Power Dissipation (per diode)

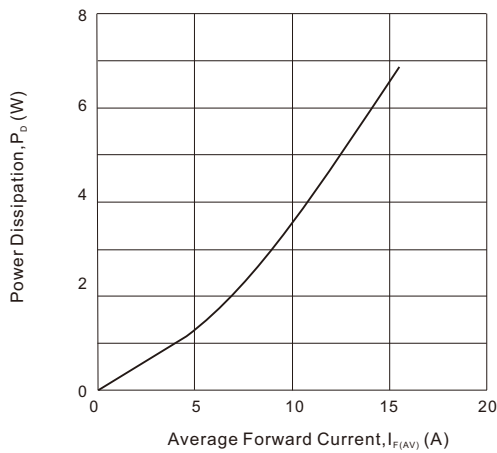


Fig. 2 - Instantaneous Forward Characteristics

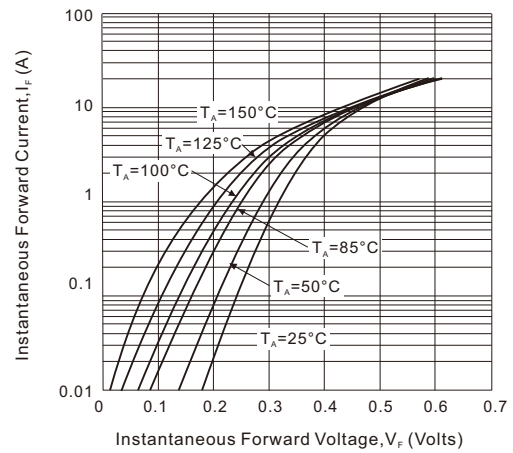


Fig. 3 - Reverse Characteristics

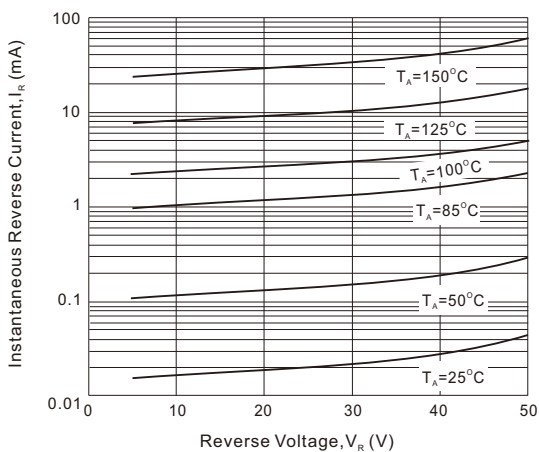
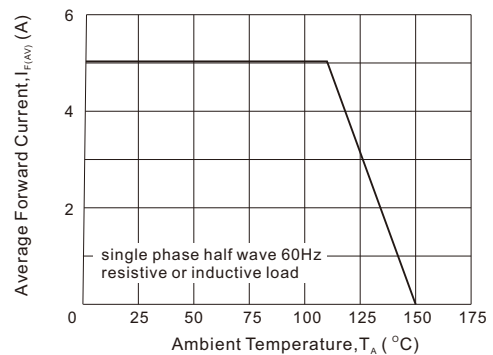


Fig. 4 - Forward Current Derating Curve (per diode)



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