CS20S40CT-A / CS20S45CT-A

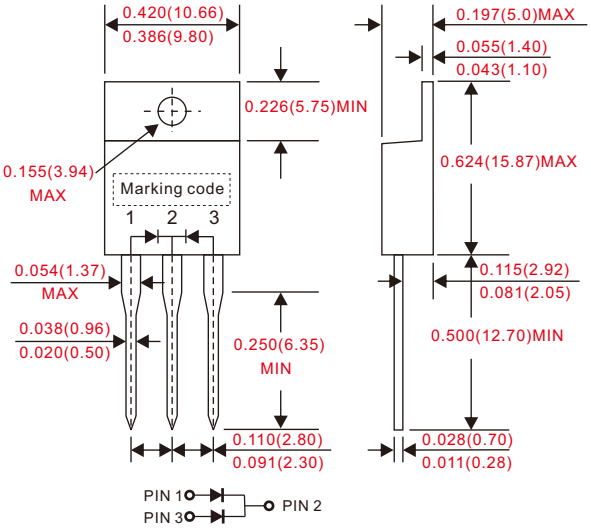
20A Low Barrier Diode

■ Features

- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Suffix "G" indicates Halogen-free part, ex.CS20S40CTG-A.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Outline

TO-220AB



Dimensions in inches and (millimeters)

■ 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.

■ 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	CS20S40CT-A	CS20S45CT-A	UNIT
Marking code			CS20S40CT	CS20S45CT	
Peak repetitive reverse voltage Working peak reverse voltage DC blocking voltage		V_{RRM} V_{RWM} V_{RM}	40	45	V
Forward rectified current (total device)		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	$R_{\theta JC}$	2		°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 = 10A, T_J = 25°C	V_F			470	mV
	I_F = 10A, T_J = 125°C				440	
	I_F = 20A, T_J = 25°C				600	
Reverse current (per diode)	V_R = V_{RRM} T_J = 25°C	I_R			0.5	mA
	V_R = V_{RRM} T_J = 125°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.

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■ Rating and characteristic curves

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

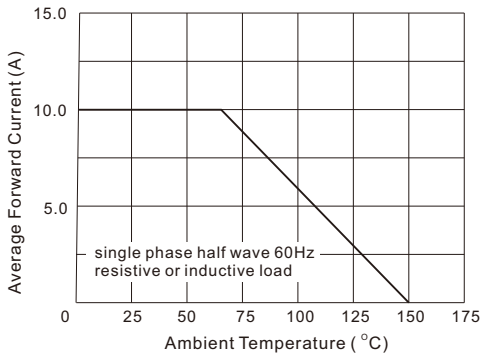


Fig. 2 - Instantaneous Forward Characteristics (per diode)

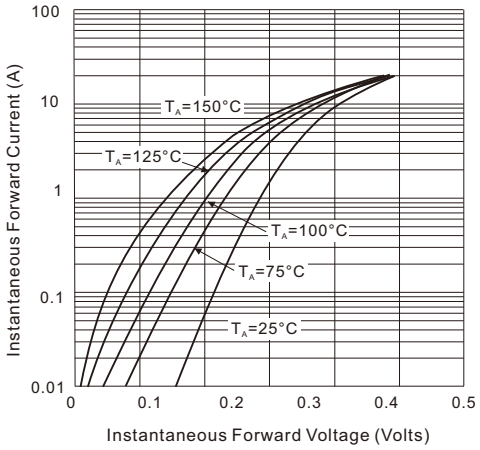
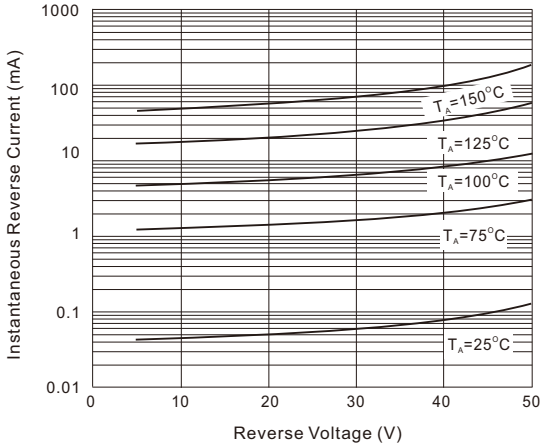


Fig. 3 - Reverse Characteristics (per diode)



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