

■ Features

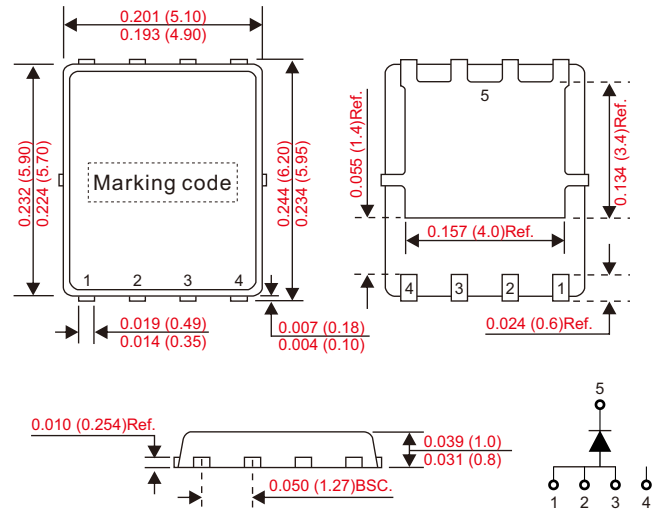
- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Suffix "G" indicates Halogen-free part, ex. CSQ20S50G-A.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Mechanical data

- Epoxy : UL94-V0 rated flame retardant.
- Case : Molded plastic, QFN.
- Lead : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity: Indicated by cathode band.
- Mounting Position : Any.
- Weight : Approximated 0.093 grams.

■ Outline

QFN



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	CSQ20S50-A	UNIT
Marking code			CSQ20S50	
Peak repetitive reverse voltage		V_{RRM}	50	V
Working peak reverse voltage		V_{RWM}		
DC blocking voltage		V_{RM}		
RMS reverse voltage		$V_{R(RMS)}$	35	V
Forward rectified current		I_O	20	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}	350	A
Thermal resistance	Junction to ambient(1)	$R_{\theta JA}$	73	°C/W
	Junction to ambient(2)	$R_{\theta JA}$	31	°C/W
Operating and Storage temperature		T_J, T_{STG}	-65 ~ +150	°C

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 0.5mA$	$V_{(BR)R}$	50			V
Forward voltage drop	$I_F = 20A, T_J = 25^\circ C$	V_F			500	mV
	$I_F = 20A, T_J = 125^\circ C$				460	
Reverse current	$V_R = V_{RRM}, T_J = 25^\circ C$	I_R			1	mA
	$V_R = V_{RRM}, T_J = 125^\circ C$				100	

Note : 1.FR-4 PCB, 2oz. Copper.
2. Polyimide PCB, 2oz. Copper. Cathode pad dimensions 18.8mm x 14.4mm. Anode pad dimensions 5.6mm x 14.4mm.

■ Rating and characteristic curves

Fig. 1 - Forward Current Derating Curve

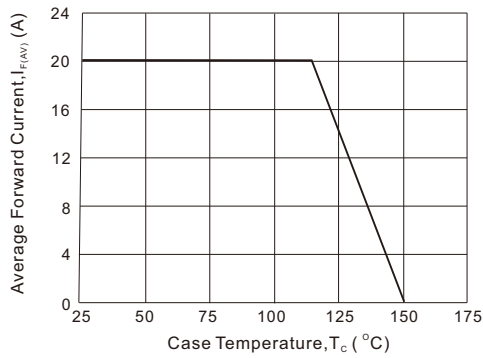


Fig. 2 - Instantaneous Forward Characteristics

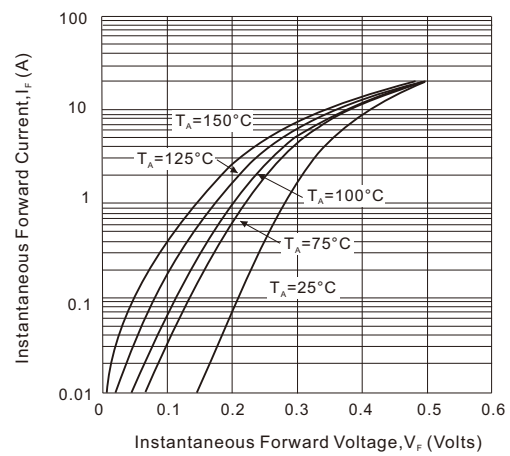
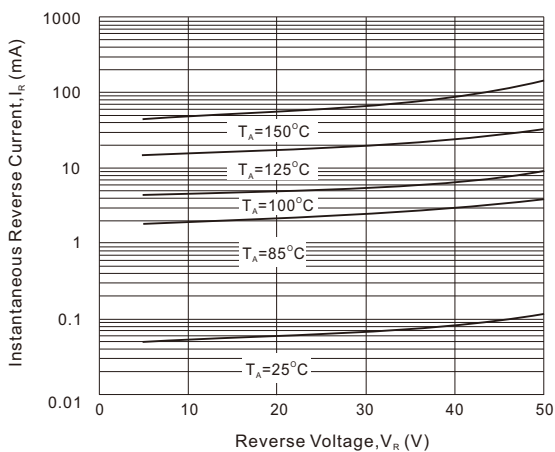
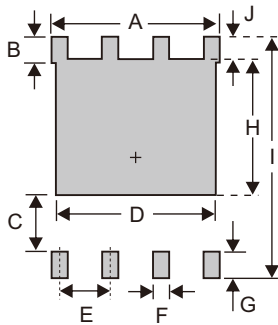


Fig. 3 - Reverse Characteristics



■ QFN foot print



A	B	C	D	E	F	G
0.174 (4.42)	0.046 (1.17)	0.031 (0.80)	0.164 (4.17)	0.050 (1.27)	0.024 (0.61)	0.050 (1.27)
H	I	J				
0.143 (3.62)	0.261 (6.65)	0.038 (0.96)				

Dimensions in inches and (millimeters)

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