

Voltage Ratings

Part number	15CLQ100
V_R Max. DC Reverse Voltage (V) (Per Leg)	100
V_{RWM} Max. Working Peak Reverse Voltage (V) (Per Leg)	

Absolute Maximum Ratings

Parameters	Limits	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current See Fig. 5	15	A	50% duty cycle @ $T_C = 100^\circ\text{C}$, rectangular waveform
I_{FSM} Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg)	250	A	@ $t_p = 8.3$ ms half-sine

Electrical Specifications

Parameters	Limits	Units	Conditions	
V_{FM} Max. Forward Voltage Drop (Per Leg) See Fig. 1 ①	0.67	V	@ 5.0A	$T_J = 25^\circ\text{C}$
	0.9	V	@ 15A	
	0.53	V	@ 5.0A	$T_J = 125^\circ\text{C}$
	0.72	V	@ 15A	
I_{RM} Max. Reverse Leakage Current (Per Leg) See Fig. 2 ①	0.5	mA	$T_J = 25^\circ\text{C}$	$V_R = \text{rated } V_R$
	15	mA	$T_J = 125^\circ\text{C}$	
C_T Max. Junction Capacitance (Per Leg)	600	pF	$V_R = 5V_{DC}$ (1MHz, 25°C)	
L_S Typical Series Inductance (Per Leg)	5.9	nH	Measured from center of cathode pad to center of anode pad	

Thermal-Mechanical Specifications

Parameters	Limits	Units	Conditions
T_J Max. Junction Temperature Range	-55 to 150	$^\circ\text{C}$	
T_{stg} Max. Storage Temperature Range	-55 to 150	$^\circ\text{C}$	
R_{thJC} Max. Thermal Resistance, Junction to Case (Per Leg)	1.67	$^\circ\text{C}/\text{W}$	DC operation See Fig. 4
R_{thJC} Max. Thermal Resistance, Junction to Case (Per Package)	0.83	$^\circ\text{C}/\text{W}$	DC operation
wt Weight (Typical)	2.4	g	
Die Size	125X125	mils	
Case Style	SMD-1		

① Pulse Width < 300 μs , Duty Cycle < 2%

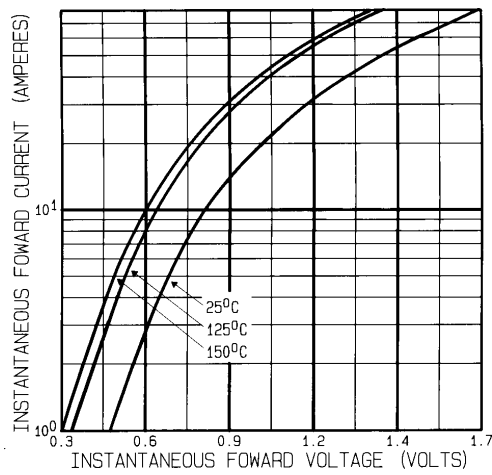


Fig. 1 - Max. Forward Voltage Drop Characteristics (Per Leg)

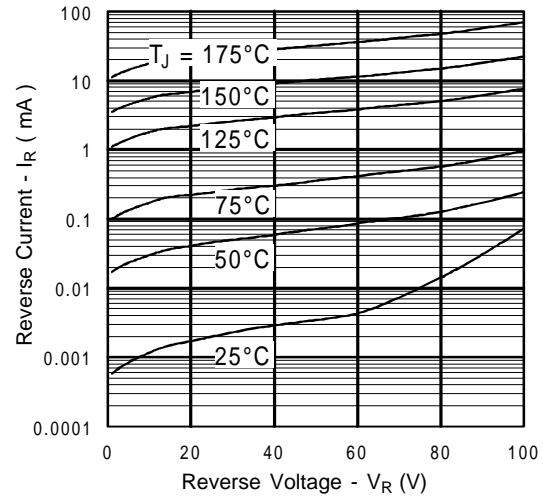


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

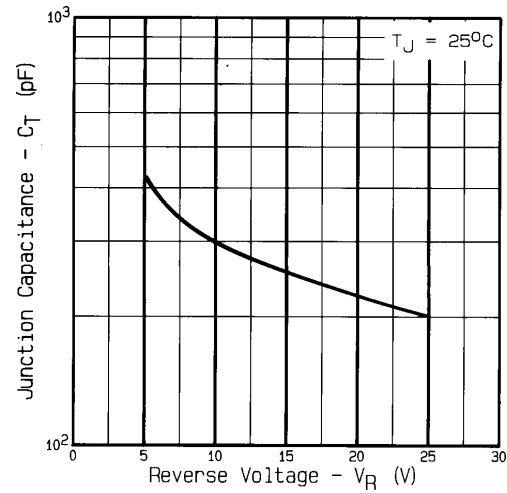


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

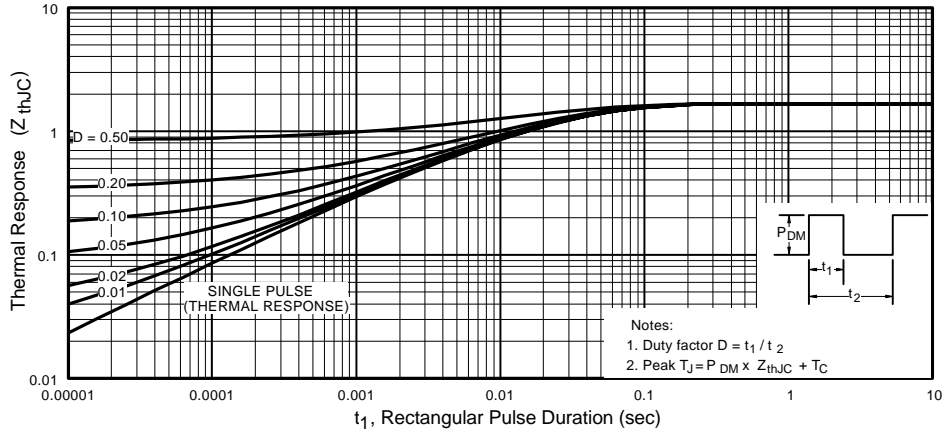


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)

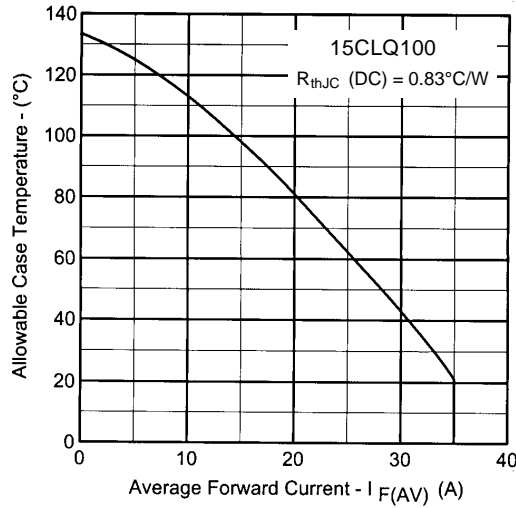


Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current



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