PD -20532E

International
IOR Rectifier

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

12CLQ150

35A,150V

Major Ratings and Characteristics

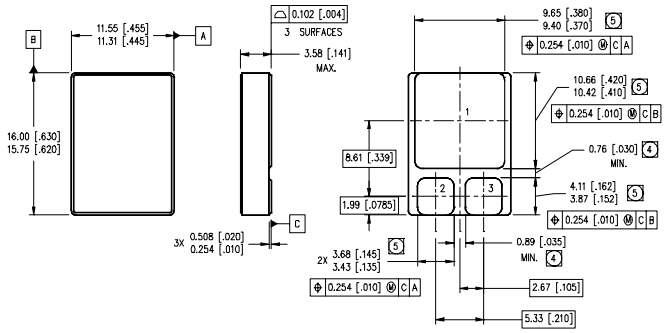
Characteristics	12CLQ150	Units
$I_{F(AV)}$ Rectangular waveform	35	A
V_{RRM} (Per Leg)	150	V
I_{FSM} @ tp = 8.3ms half-sine (Per Leg)	200	A
V_F @ 15Apk, T_J =125°C (Per Leg)	0.86	V
T_J, T_{stg} Operating and storage	-55 to 150	°C

Description / Features

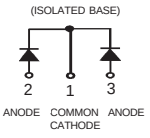
The 12CLQ150 center tap Schottky rectifier has been expressly designed to meet the rigorous requirements of hi-rel environments. It is packaged in the hermetic surface mount SMD-1 ceramic package. The device's forward voltage drop and reverse leakage current are optimized for the lowest power loss and the highest circuit efficiency for typical high frequency switching power supplies and resonent power converters. Full MIL-PRF-19500 quality conformance testing is available on source controlled drawings to TX, TXV and S levels.

- Hermetically Sealed
- Center Tap
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long Term Reliability
- Surface Mount
- Lightweight

CASE STYLE



NOTES:
1. DIMENSIONING & TOLERANCING PER ASME Y14.5M–1994.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSIONS ARE SHOWN IN MILLIMETERS [INCHES].
4. DIMENSION INCLUDES METALLIZATION FLASH.
5. DIMENSION DOES NOT INCLUDE METALLIZATION FLASH.



Case Outline and Dimensions - SMD-1

10/07/02

Voltage Ratings

	Part number	12CLQ150
V_R	Max. DC Reverse Voltage (V) (Per Leg)	150
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	35	A	50% duty cycle @ T_C = 100°C, rectangular waveform
I_{FSM}	Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg)	200	A	@ t_p = 8.3 ms half-sine

Electrical Specifications

	Parameters	Limits	Units	Conditions	
V_{FM}	Max. Forward Voltage Drop (Per Leg) See Fig. 1①	1.13	V	@ 15A	T_J = 25°C
		1.6	V	@ 35A	
		0.86	V	@ 15A	T_J = 125°C
		1.20	V	@ 35A	
I_{RM}	Max. Reverse Leakage Current (Per Leg) See Fig. 2 ①	0.5	mA	T_J = 25°C	V_R = rated V_R
		15	mA	T_J = 125°C	
C_T	Max. Junction Capacitance (Per Leg)	340	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	°C	
T_{stg}	Max. Storage Temperature Range	-55 to 150	°C	
R_{thJC}	Max. Thermal Resistance, Junction to Case (Per Leg)	1.67	°C/W	DC operation See Fig. 4
R_{thJC}	Max. Thermal Resistance, Junction to Case (Per Package)	0.83	°C/W	DC operation
wt	Weight (Typical)	2.6	g	
	Die Size	125X125	mils	
	Case Style	SMD-1		

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

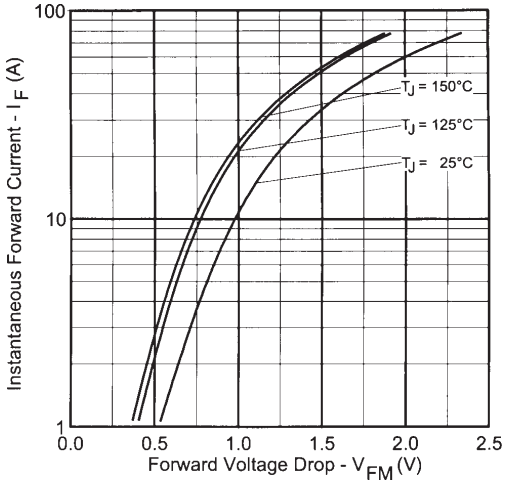


Fig. 1 - Max. Forward Voltage Drop Characteristics (Per Leg)

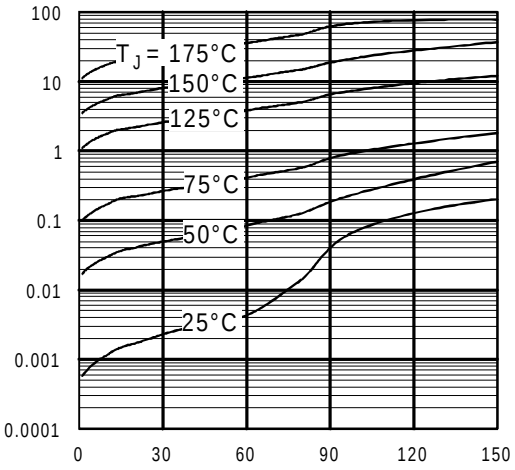


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

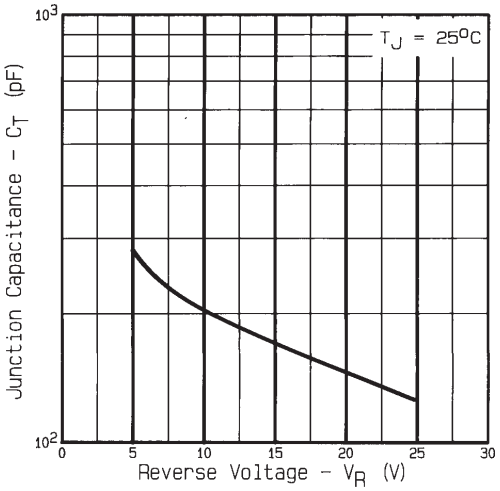


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

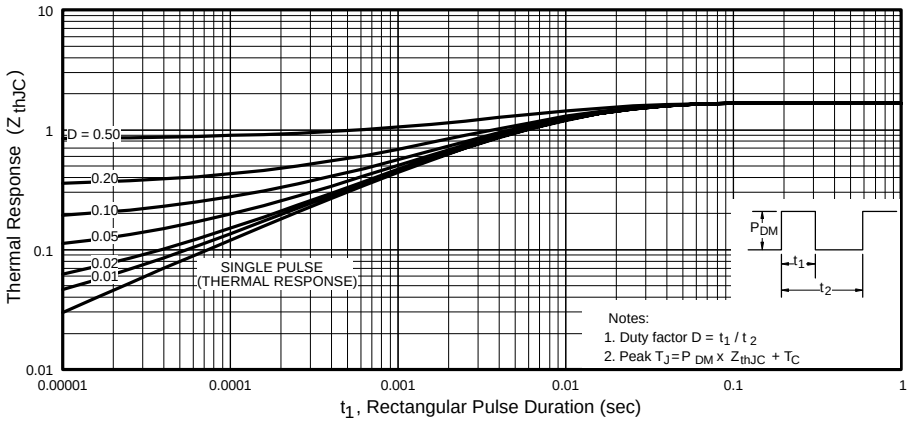


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)

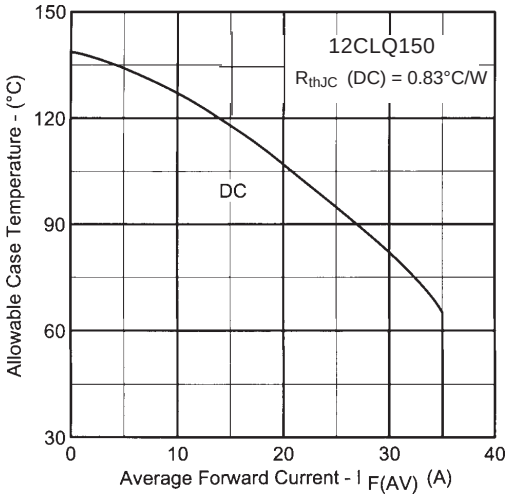


Fig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current

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Data and specifications subject to change without notice. 10/02