

SCHOTTKY RECTIFIER

160CMQ

160 Amp

Voltage Ratings

Part number	160CMQ035	160CMQ040	160CMQ045
V_R Max. DC Reverse Voltage (V)	35	40	45
V_{RWM} Max. Working Peak Reverse Voltage (V)			

Absolute Maximum Ratings

Parameters	160CMQ	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current * See Fig. 5	160	A	50% duty cycle @ $T_C = 69^\circ\text{C}$, rectangular wave form
I_{FSM} Max. Peak One Cycle Non-Repetitive Surge Current (Per Leg) * See Fig. 7	6400	A	5 μs Sine or 3 μs Rect. pulse 10ms Sine or 6ms Rect. pulse Following any rated load condition and with rated V_{RWM} applied
	750		
E_{AS} Non-Repetitive Avalanche Energy (Per Leg)	108	mJ	$T_J = 25^\circ\text{C}$, $I_{AS} = 16$ Amps, $L = 0.84$ mH
I_{AR} Repetitive Avalanche Current (Per Leg)	16	A	Current decaying linearly to zero in 1 μsec Frequency limited by T_J , max. $V_A = 1.5 \times V_R$ typical

Electrical Specifications

Parameters	160CMQ	Units	Conditions
V_{FM} Max. Forward Voltage Drop (Per Leg) * See Fig. 1 (1)	0.64	V	@ 80A
	0.86	V	@ 160A
	0.60	V	@ 80A
	0.76	V	@ 160A
I_{RM} Max. Reverse Leakage Current (Per Leg) * See Fig. 2 (1)	5	mA	$T_J = 25^\circ\text{C}$
	200	mA	$T_J = 125^\circ\text{C}$
C_T Max. Junction Capacitance (Per Leg)	2600	pF	$V_R = 5V_{DC}$, (test signal range 100Khz to 1Mhz) 25°C
L_S Typical Series Inductance (Per Leg)	8.0	nH	Measured from terminal hole to terminal hole
dv/dt Max. Voltage Rate of Change (Rated V_R)	10,000	V/ μs	

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

Thermal-Mechanical Specifications

Parameters	160CMQ	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)	1.0	$^\circ\text{C/W}$	DC operation
R_{thJC} Max. Thermal Resistance Junction to Case (Per Package)	0.50	$^\circ\text{C/W}$	DC operation
R_{thCS} Typical Thermal Resistance, Case to Heatsink	0.10	$^\circ\text{C/W}$	Mounting surface, smooth and greased
wt Approximate Weight	58 (2.0)	g (oz.)	
T Mounting Torque	Min.	40 (35)	Kg-cm
	Max.	58 (50)	(lbf-in)

