

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	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 $\mu\text{sec}$ 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) $25^\circ\text{C}$
$L_S$ 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/ $\mu\text{s}$	

(1) Pulse Width < 300 $\mu\text{s}$ , 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)

