

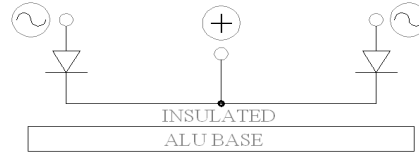

**Insulated Version**

# MCF160.04 IS

## FAST RECOVERY DIODE MODULE

**Output Current**                    **160 A**

**Blocking Voltage**                **400 V**



$V_{RRM}$ [V]	$V_{RSM}$ [V]	$V_{OUT}$ [V]	P/N
400	500	125	MCF160.04IS

### Features

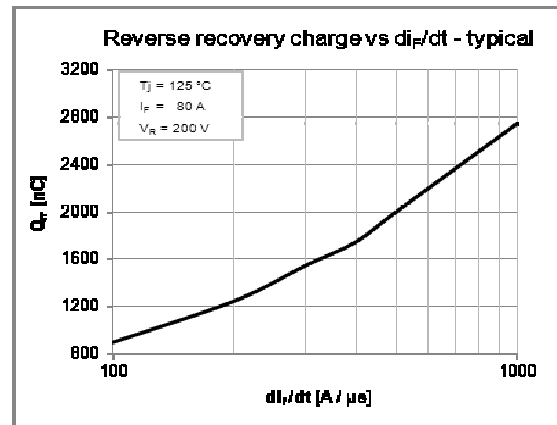
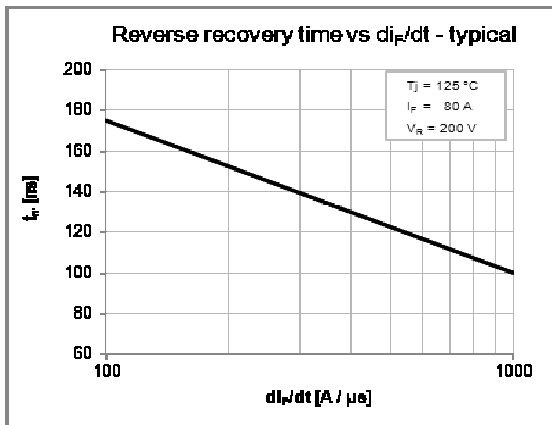
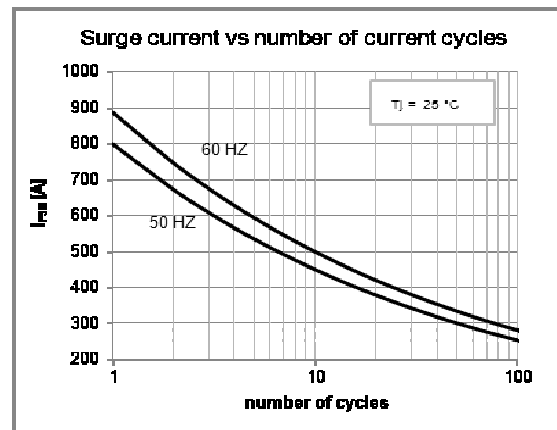
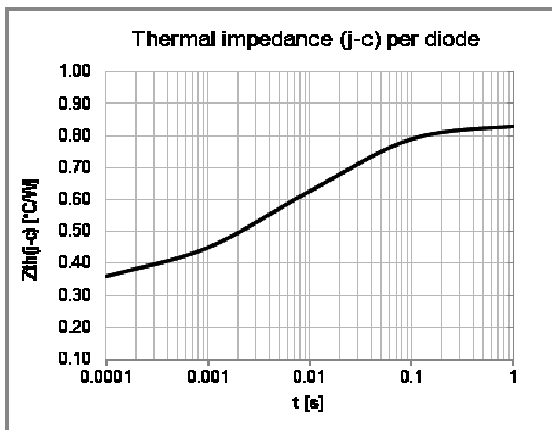
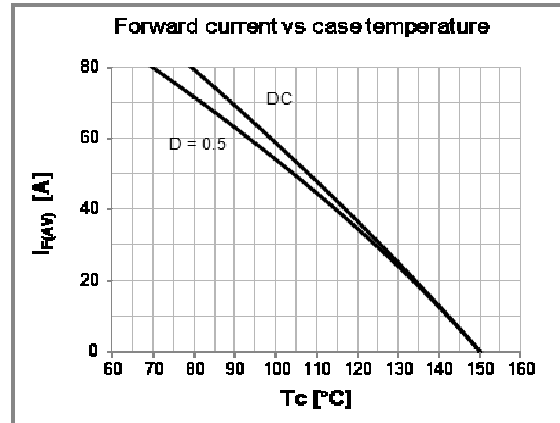
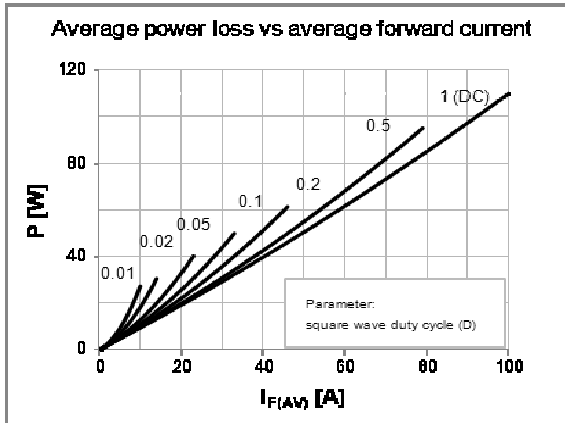
- Short recovery time
- Low switching losses
- Soft recovery behavior
- Electrically insulated case

### Applications

- Antiparallel diode for high frequency switching devices
- Free-wheeling diode in converters or motor controllers
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

Diodes characteristics		Conditions	$T_j$ [°C]	Value
$I_{F(AV)}$	Average forward current	$T_c = 70\text{ °C}$		80 A
$I_{FRM}$	Repetitive forward current, max	Square wave, 20 kHz		160 A
$I_{RRM}$	Max repetitive peak reverse current	$V = V_{RRM}$	150	2 mA
$V_{F(TO)}$	Threshold voltage		150	0,92 V
$r_F$	Forward slope resistance		150	1,8 mΩ
$V_{FM}$	Peak forward voltage, max	$I_F = 80\text{ A}$	150	1,15 V
$I_{FSM}$	Surge forward current	Half sine wave, 10 ms	25	800 A
$I^2t$	Max $I^2t$ for fusing		25	3200 A <sup>2</sup> s
$C_T$	Junction capacitance, typ	$V = 200\text{ V}$	25	50 pF
$Q_{rr}$	Reverse recovery charge, typ	$I_F = 80\text{ A}$	125	1300 nC
$I_{rr}$	Reverse recovery current, typ	$V_R = 200\text{ V}$		17 A
$t_{rr}$	Reverse recovery time, typ	$di_F / dt = 200\text{ A} / \mu\text{s}$		150 ns
$T_{jmax}$	Operating junction temperature			-40 / 150 °C
$R_{th(j-c)}$	Thermal resistance (junction to case)			0,83 °C/W

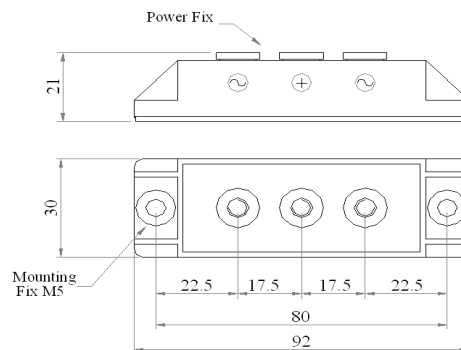
Module characteristics		Conditions	Value
$I_{OUT}$	Output current (center tap connection)	$T_c = 70\text{ °C}$	160 A
$V_{INS}$	RMS Insulating voltage	50 / 60 Hz $t = 1\text{ s}$ ( $i < 1\text{ mA}$ )	3600 V
$V_{INS}$	RMS Insulating voltage	50 / 60 Hz $t = 60\text{ s}$ ( $i < 1\text{ mA}$ )	3000 V
$R_{th(c-h)}$	Thermal resistance (case to heatsink)	Mounting surface flat, smooth and greased	0,100 °C/W
$T_{stg}$	Max storage temperature		150 °C
$W$	Weight		115 g
$M_1$	Mounting torque, ± 15 %		5,5 N·m
			48 lb·inch
$M_2$	Terminal connection torque, ± 15 %		4,0 N·m
			35 lb·inch



**Ordering information**

SS5=Screrw M5 (Power Fix)  
SS6=Screrw M6 (Power Fix)

MCF160.04 **SS5** Fix5 IS



(dimensions in mm)