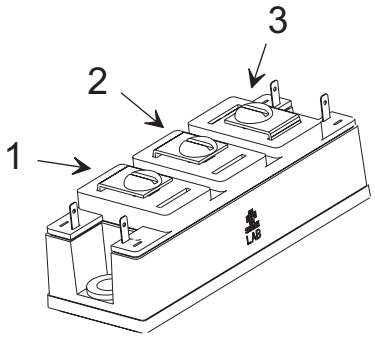
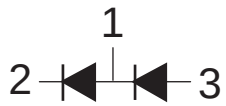
SML250SRZ06ES

MECHANICAL DATA

Standard Rectifier Diode Module 600 Volt, 2 x 250 Amp





E34 Module

Key Parameters

V_R	(max)	600V
V_F	(typ)	1.19V
I_F	(max)	2 x 250A
t_{rr}	(typ)	4.5µs

TECHNOLOGY

The Semelab range of standard rectifier diodes couple low on state losses and low EMI generation due to a 'rugged' ultra soft recovery under all dynamic conditions.

It comes in the E34 package to allow easy connection of multiple devices in standard configurations. Parallel operation is problem free because Semelab standard rectifier diodes have a positive temperature coefficient of V_F.

BENEFITS

- **Ultra soft recovery with low EMI generation**
- **High dynamic ruggedness under all conditions**
- **Low on state losses with positive temperature coefficient**
- **Stable blocking voltage and low leakage current**

APPLICATIONS

- **High power DC supplies**
- **Bridge Rectification in PWM inverters**
- **DC motor field supply**
- **DC battery applications**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{RRM}	Peak Repetitive Reverse Voltage	600V
V_R	DC Reverse Blocking Voltage	600V
I_{FAV}	Average Forward Current @T_C = 85°C	250A
$I_{FSM(surge)}$	Repetitive Forward Current	750A
$I_{FS(surge)}$	Non-Repetitive Forward Current(10msec pulse)	1000A
P_D	Power Dissipation @T_C = 85°C (per diode)	540W
T_J ,T_{STG}	Operating & Storage Junction Temperature	-55 to 150°C

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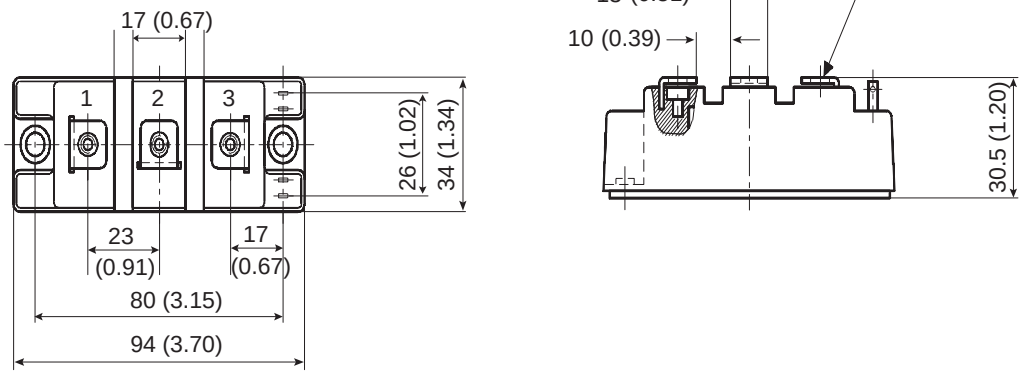
ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
STATIC ELECTRICAL CHARACTERISTIC							
V_F	Forward Voltage Drop	I_F = 250 A	T_j = 25°C		1.19	1.3	V
		I_F = 250A	T_j = 125°C			1.4	
I_R	Leakage Current	V_R = 600V	T_j = 25°C			1.28	mA
		V_R = 600V	T_j = 125°C			16	
C_T	Junction Capacitance	V_R = 600V	T_j = 25°C		TBA		pF
DYNAMIC ELECTRICAL CHARACTERISTIC							
Q_{rr}	Reverse Recovery Charge	V_R = 300V	I_F = 250A		241.4		µC
I_{rr}	Reverse Recovery Current	d_i / d_t = 1200A/µs	T_J = 25°C		177		A
t_{rr}	Reverse Recovery Time				2.73		µs
t_{rr}	Reverse Recovery Time	V_R = 50V	I_F = 1A		3.28		µs
		d_i / d_t = 200A/µs	T_J = 25°C				
THERMAL AND MECHANICAL CHARACTERISTICS							
$R_{\theta jc}$	Junction to Case Thermal Resistance (per diode)				0.12		°C/W
$R_{\theta jA}$	Junction to Ambient Thermal Resistance (per diode)				0.30		

Package Outline Drawing



Dimensions in millimeters (inches)

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