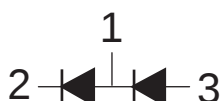
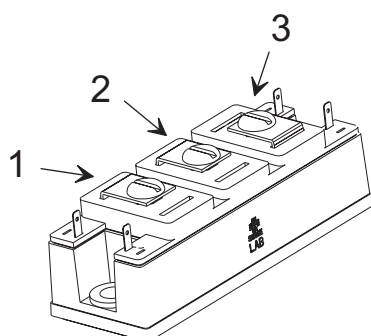


MECHANICAL DATA



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

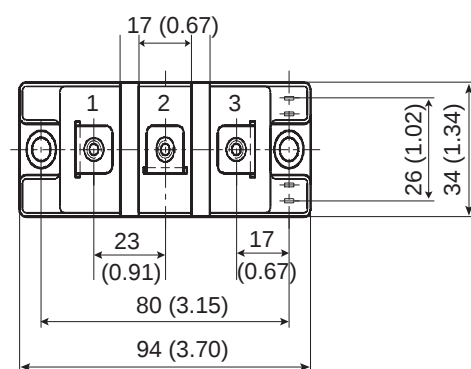
Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

SML250SRZ06ES

ELECTRICAL CHARACTERISTICS ($T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise stated)

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

Package Outline Drawing



Dimensions in millimeters (inches)

