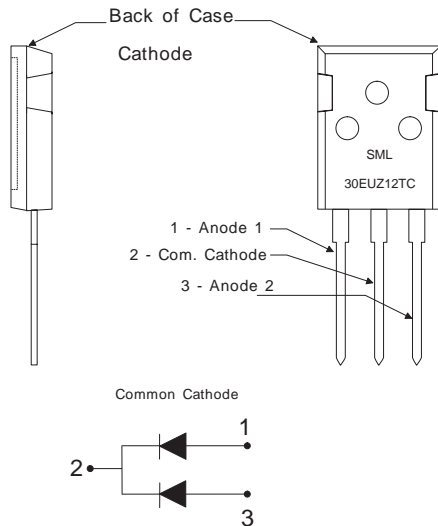


Enhanced Ultrafast Recovery Diode 1200 Volt, 2 x 30 Amp



See Package outline for mechanical data and more details

TO247 Package

Key Parameters

V_{RRM}	(max)	1200V
V_F	(typ)	3.1V
I_F	(max)	2 x 30A
t_{rr}	(max)	45nS

TECHNOLOGY

The planar passivated and enhanced ultrafast recovery diode features a triple charge control action utilising Semelab's Graded Buffer Zone technology combined with low emitter efficiency and local lifetime control techniques.

BENEFITS

- Very fast recovery for low switching losses
- Ultra soft recovery with low EMI generation
- High dynamic ruggedness under all conditions
- Low temperature dependency
- Low on-state losses with positive temperature coefficient
- Stable blocking voltage and low leakage current
- Avalanche rated for high reliability circuit operation

APPLICATIONS

- Freewheeling Diode for IGBTs and MOSFETs
- Uninterruptible Power Supplies UPS
- Switch Mode Power Supplies SMPS
- Inverse and Clamping Diode
- Snubber Diode
- Fast Switching Rectification

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^\circ C$ unless otherwise stated)

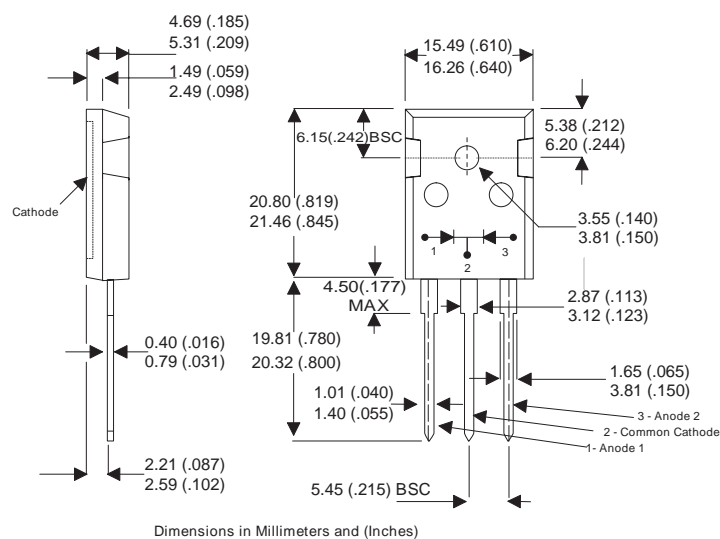
V_{RRM}	Peak Repetitive Reverse Voltage	1200V
V_R	DC Reverse Blocking Voltage	1200V
I_{FAV}	Average Forward Current @ $T_C = 85^\circ C$	30A
$I_{FSM(surge)}$	Repetitive Forward Current	75A
$I_{FS(surge)}$	Non-Repetitive Forward Current(10msec pulse)	300A
P_D	Power Dissipation @ $T_C = 85^\circ C$	100W
W_{AVL}	Avalanche Energy(L=40mH)	30mJ
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.

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 = 30A T _j = 25°C		3.1	3.5	V
		I _F = 30A T _j = 125°C			3.7	
		I _F = 15A T _j = 25°C		2.35		
I _R	Leakage Current	V _R = 1200V T _j = 25°C		1	750	μA
		V _R = 1200V T _j = 125°C		0.75	5	mA
C _T	Junction Capacitance	V _R = 200V T _j = 25°C		33		pF
DYNAMIC ELECTRICAL CHARACTERISTIC						
Q _{rr}	Reverse Recovery Charge	V _R = 600V I _F = 30A d _i / d _t = 1000A/μs T _J = 25°C		0.96		μC
I _{rr}	Reverse Recovery Current			35		A
t _{rr}	Reverse Recovery Time			55		nsec
Q _{rr}	Reverse Recovery Charge	V _R = 600V I _F = 30A d _i / d _t = 1000A/μs T _J = 125°C		1.56		μC
I _{rr}	Reverse Recovery Current			47		A
t _{rr}	Reverse Recovery Time			66		nsec
t _{rr}	Reverse Recovery Time	V _R = 50V I _F = 1A d _i / d _t = 100A/μs T _J = 25°C		45		nsec
THERMAL AND MECHANICAL CHARACTERISTICS						
R _{θjc}	Junction to Case Thermal Resistance			0.93		°C/W
T _L	Lead Temperature			300		°C
L _S	Stray Inductance		10			nH
Torque	Mounting Torque			1.1		N.m

TO-247 Package Outline



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.