

Properties

- All diffused design
- High current capabilities
- High surge current capabilities
- High rates voltages
- High du/dt
- Low gate current
- Dynamic gate
- Low thermal impedance
- Tested according to IEC standards
- Compact size and small weight

Applications

- High Power Drives
- DC Motor Control
- High Voltage Power Supplies



Photo non-contractual

Electrical properties

Parameter		Test conditions	Value
Repetitive reverse voltage	V_{RRM}	SCTP0750N12	1200V
		SCTP0750N16	1600V
Reverse current	I_{RRM}	T_{jmax}	30 mA
Average on-state current	I_{AV}	$T_C=65^{\circ}C$	750 A
R.M.S. Forward current	I_{RMS}		1180 A
Surge current	I_{TSM}	10ms, T_{jmax} , $0.8V_{RRM}$	9500 A
I^2t value	I^2t		$450 \times 10^3 A^2s$
On-state voltage max.	V_T	$I_{TM}=1500A$, $T_j=25^{\circ}C$	1,70 V
Threshold voltage	V_o		0,89 V
Slope resistance	r_o		0,48 mOhm
Latching current	I_L	$T_j=25^{\circ}C$, $V_D=12V$	800 mA
Holding current	I_H	$T_j=25^{\circ}C$, $V_D=12V$	200 mA
Circuit conmutated turn-off time (typical)	t_q	$T_j=125^{\circ}C$, $I_{TM}=1250A$, $di_R/dt=12,5A/\mu s$, $dv/dt=20V/\mu s$, $V_D=0,67V_{DRM}$, $V_{RM}=100V$.	150 μs
Turn-on time (typical)	t_{on}	$I_{TM}=100A$, $V_{DM}=100V$	7 μs
Rate of change of current	di/dt	$T_j=125^{\circ}C$, $I_{TM}=3I_{AV}$, $V_D=0,67V_{DRM}$, $f=50Hz$, $I_{GM}=1A$, $di_G/dt=1A/\mu s$	150 A/ μs
Rate of rise of voltage	dv/dt	$T_j=125^{\circ}C$, $V_D=0,67V_{DRM}$	1000 V/ μs
Trigger gate current	I_G	$T_j=25^{\circ}C$, $V_D=12V$	150 mA
Gate trigger voltage	V_G	$T_j=25^{\circ}C$, $V_D=12V$	3 V

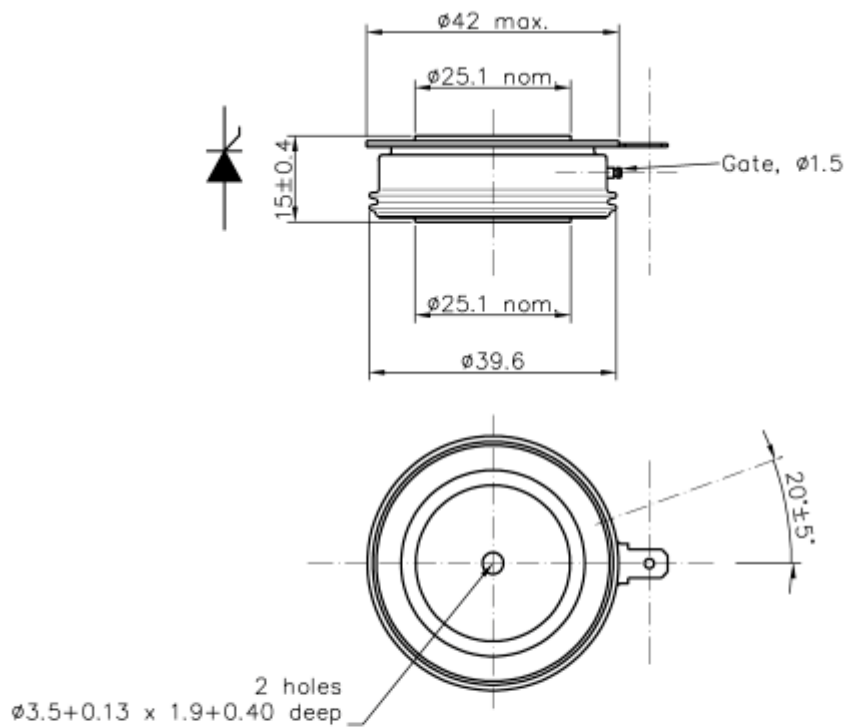
080115 Rev.:0

Thermal properties

Parameter		Test conditions	Value
Max. operating junction temperature	$T_{j_{max}}$		125 °C
Thermal resistance junction-capsule	$R_{TH_{j-c}}$	two sided, DC	0,040 °C/W.
		180° sin	0,040 °C/W.
		120° sin	0,041 °C/W.
		60° sin	0,042 °C/W.
Thermal resistance capsule-heatsink	$R_{TH_{c-hs}}$	two sided	0,02°C/W.
Storage temperature	T_{stg}		-40...+125°C

Mechanical properties

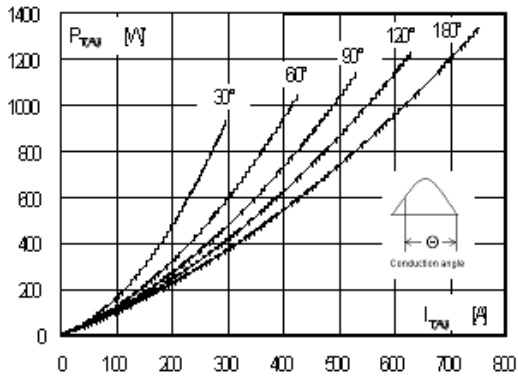
Parameter		Value
Weight	M	85 g
Clamping force	m	9...11 kN



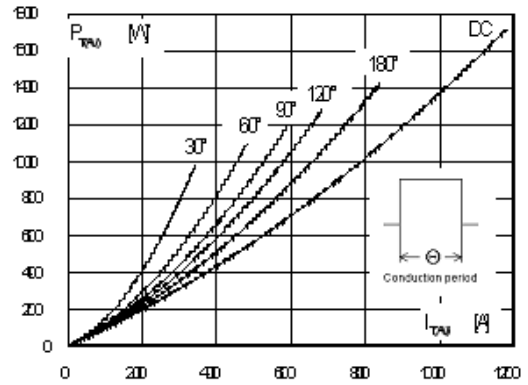
Clamping force: 9 – 11 kN
Lead length: std. 205 mm (or custom length)
Lead terminal connector: M4 ring

Nominal weight: 85 g

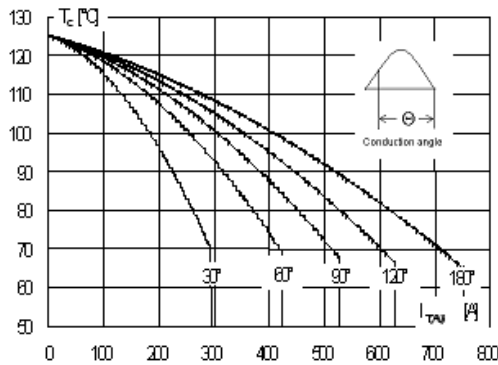
080115 Rev.:0



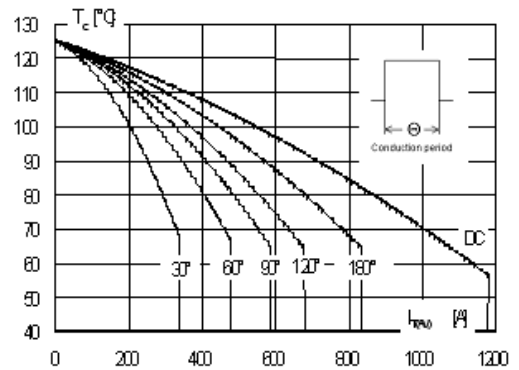
Power loss characteristics. Sinus wave form.



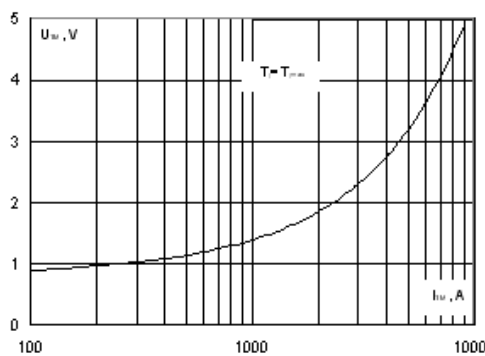
Power loss characteristics. Square wave form



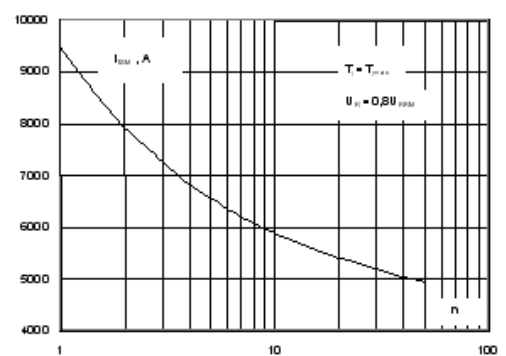
Case temperature ratings. Sinus wave form.



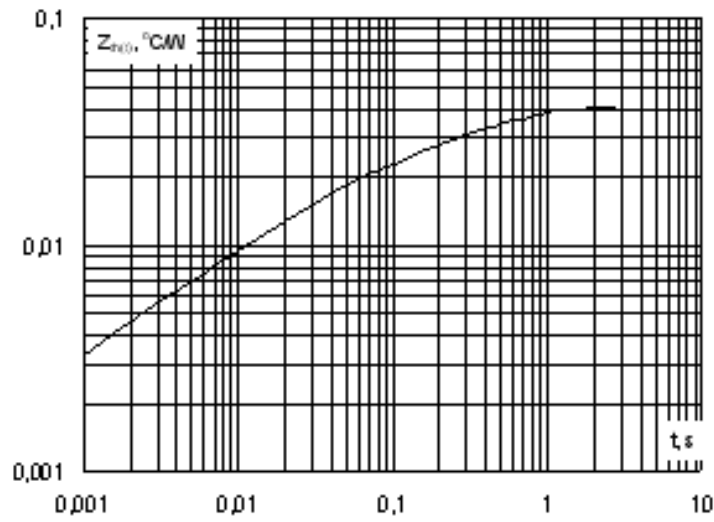
Case temperature ratings. Square wave form.



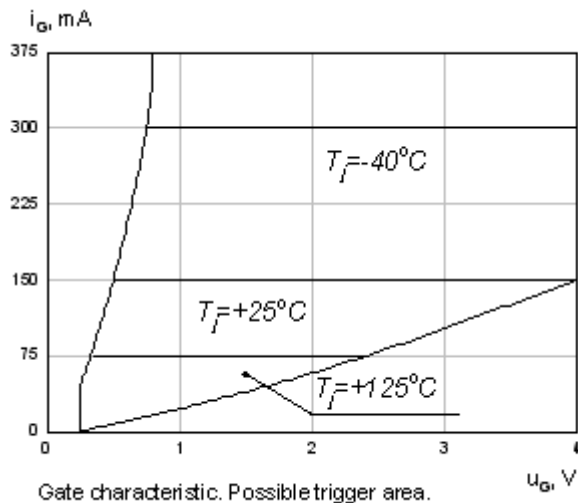
On-state characteristic



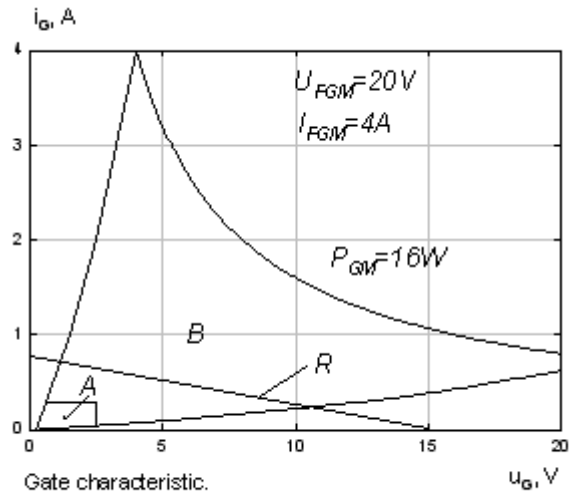
Maximum overload characteristic



Transient thermal impedance



Gate characteristic. Possible trigger area.



Gate characteristic.
A - possible trigger area
B - permitted gate pulse loading area
R - recommended gate drive load line

Cost Effective Products

SEMICODE ELECTRONICA

offers to the market a comprehensive range of products from recognized manufacturers at the best price/quality relationship, this products are provided with a basic reference code that allows maintaining the same product reference even if the original device manufacturer is replaced. SEMICODE product reference has to be considered as a generic brand.

Seeking the market needs and trends, we are constantly increasing the product portfolio with new products and suppliers, please ask for the updated information available to our local contacts.

SEMICODE products include semiconductors, passive components and accessories focused in power electronics market.

Datasheet Annotations:

SEMICODE ELECTRONICA annotate datasheets in the top left hard corner of the front page, to indicate product status. The annotations are as follows:

Tentative information: This is the most tentative form of information and represents a very preliminary specification. No actual design work on the product has been started.

Preliminary Information: The product is in design and development. The datasheet represents the product as it is understood but details may change.

Advance Information: The product design is complete and final characterisation for volume production is well in hand.

No Annotation: The product parameters are fixed and the product is available to datasheet specification.

NOTICE: The technical data are to specify components, not to guarantee their properties.No warranty or guarantee expressed or implied is made regarding delivery or performance. The Company reserves the right to alter without prior notice the specification of any product. Information concerning possible methods of use is provided as a guide only and does not constitute any guarantee that such methods of use will be satisfactory in a specific piece of equipment. It is the user's responsibility to fully determine the performance and suitability of any equipment using such information and to ensure that any publication or data used is up to date.

All brand names and product names used in this publication are trademarks, registered trademarks or trade names of their respective owners.

© SEMICODE ELECTRONICA 2008. TECHNICAL DOCUMENTATION – NOT FOR RESALE