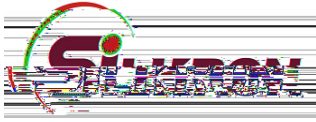


- Trench FS technology offering
-
-
- High ruggedness, temperature stable behavior
-



-
- Uninterruptible power supplies
- Motor drives
- Air condition

Symbol	Parameter	Value	Units
V_{CES}	Collector-Emitter Voltage	1250	V
V_{GES}	Gate- Emitter Voltage	30	V
I_C	Collector Current	160	A
	Collector Current @ $T_C = 100\text{ }^\circ\text{C}$	80	
I_{Cpuls}	Pulsed Collector Current t_p limited by T_{Jmax}	320	
-	Turn off safe operating area $V_{CE}=650V$ $T_J=175^\circ\text{C}$	320	
I_F	Diode Continuous Forward Current @ $T_C = 25\text{ }^\circ\text{C}$	160	A
	Diode Continuous Forward Current @ $T_C = 100\text{ }^\circ\text{C}$	80	
I_{FM}	Diode Maximum Forward Current	320	
P_D	Power Dissipation @ $T_C = 25^\circ\text{C}$	833	W
T_J T_{STG}	Operating Junction and Storage Temperature Range	-55 to +175	$^\circ\text{C}$
T_L	Maximum Temperature for Soldering	260	$^\circ\text{C}$



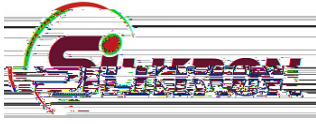
Symbol	Characterizes	Typ.	Max.	Units
	Thermal Resistance, Junction-to-case for IGBT			°C
	Thermal Resistance, Junction-to-case for Diode			°C
	Thermal Resistance, Junction-to-ambient			°C

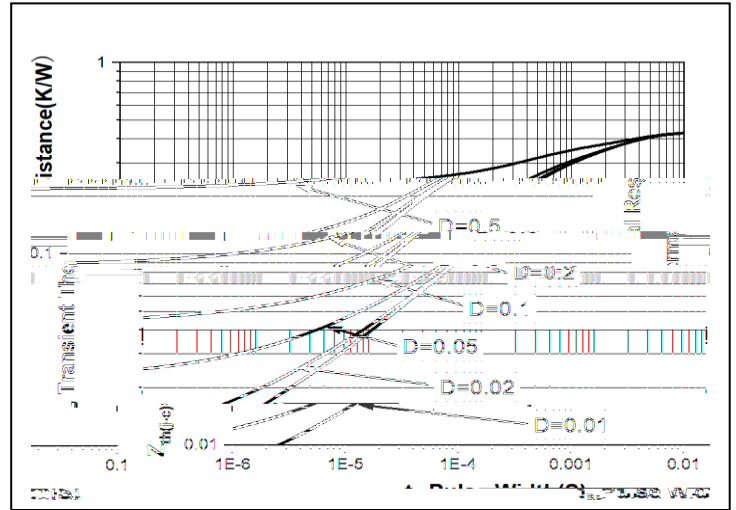
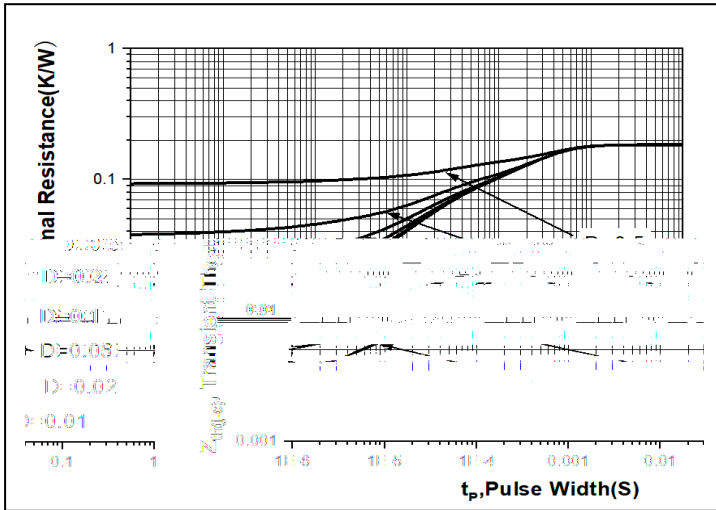
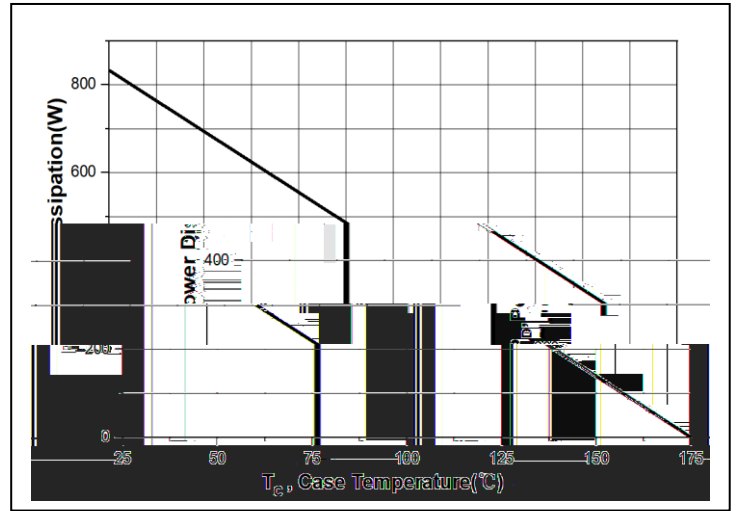
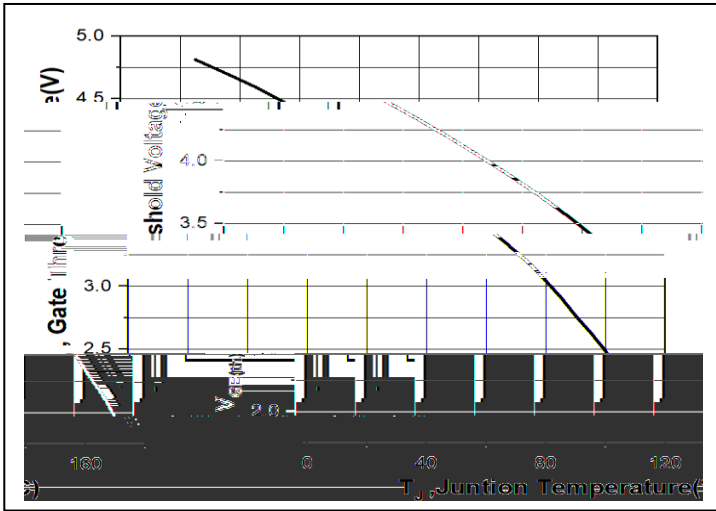
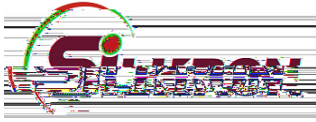
°C

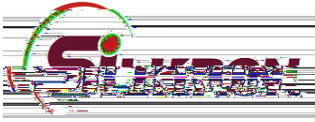
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
V _{(BR)CES}	Collector-Emitter Breakdown Voltage	1250			V	V _{GE} =0V, I _{CE} =1mA
V _{CE(sat)}	Collector-Emitter Saturation Voltage		1.75	2.1	V	I _C =80A, V _{GE} =15V @ T _J =25°C
V _{GE(th)}	Gate Threshold Voltage	4.5		6.5	V	I _C =250 C _E =V _{GE}
I _{CES}	Collector-Emitter Leakage Current			1	A	V _{GE} =0V, V _{CE} =1200V
I _{GES}	Gate to Emitter Reverse Leakage			100 -100	nA	V _{GE} =30V, V _{CE} =0V V _{GE} =-30V, V _{CE} =0V
C _{ies}	Input capacitance		11810		pF	V _{GS} =0V V _{DS} =100V 1MHz
C _{oes}	Output capacitance		164			
C _{res}	Reverse transfer capacitance		108			
t _{d(on)}	Turn-on delay time				ns	V _{CC} =600V, I _C =80A, V _{GE} =0/15V, R _g =10
t _r	Rise time					
t _{d(off)}	Turn-Off delay time					
t _f	Fall time					
E _{on}	Turn-On Switching Loss				mJ	V _{CC} =600V, I _C =80A, V _{GE} =0/15V, R _g =10
E _{off}	Turn-Off Switching Loss					
E _{ts}	Total Switching Loss					
Q _g	Total Gate Charge				nC	V _{CC} =960V, I _C =80A, V _{GE} =15V
Q _{ge}	Gate to Emitter Charge					
Q _{gc}	Gate to Collector Charge					
I _{C(SC)}	Short circuit collector current Max. 1000 short circuits Time between short circuits: 1.0s				A	V _{GE} =15V, V _{CC} 600V, t _{sc} 13 s

°C

Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
V _{FM}	Diode Forward Voltage		2.15	4	V	I _F =80A
t _{rr}	Reverse Recovery Time		538		ns	T _J =25°C, I _F =80A, V _R =600V V _{GE} =0/15V
Q _{rr}	Reverse Recovery Charge		4.81			
I _{RRM}	Diode Peak Reverse Recovery Current		23		A	







ATTENTION:

Any and all Silikron products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your Silikron representative nearest you before using any Silikron products described or contained herein in such applications.

Silikron assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all Silikron products described or contained herein.

Specifications of any and all Silikron products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the

equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer

Silikron Microelectronics (Suzhou) Co.,Ltd. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.

In the event that any or all Silikron products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of Silikron Microelectronics (Suzhou) Co.,Ltd.

Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. Silikron believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the Silikron product that you intend to use.
