

INTERNATIONAL
STANDARD

ISO
24065

First edition
2023-10

**Aerospace — High-power solid-
state power controller — General
performance requirements**



Reference number
ISO 24065:2023(E)

© ISO 2023



COPYRIGHT PROTECTED DOCUMENT

© ISO 2023

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Requirements	6
4.1 Detail requirements.....	6
4.2 Electrical characteristics.....	6
4.3 Performance.....	6
4.3.1 Control signals.....	6
4.3.2 Turn-on and turn-off time.....	6
4.3.3 Load voltage rise and fall time (soft on/off function).....	6
4.3.4 Isolation.....	6
4.3.5 Control signal levels.....	6
4.3.6 Voltage drop.....	7
4.3.7 Off state leakage current.....	7
4.3.8 Off state output voltage.....	7
4.3.9 Power dissipation.....	7
4.3.10 Overload characteristics.....	7
4.3.11 State indication.....	7
4.3.12 HPSSPC trip-free characteristics.....	7
4.3.13 Zero voltage turn-on and zero current turn-off (AC HPSSPC).....	8
4.3.14 Reverse current.....	8
4.3.15 Exponential rate of voltage rise.....	8
4.3.16 Arc fault characteristics.....	8
4.3.17 Built-in test.....	8
4.3.18 Setting change for the rated current.....	9
5 Quality assurance provisions on electrical characteristics	9
5.1 General.....	9
5.2 Control signals.....	9
5.2.1 General.....	9
5.2.2 Turn-on signal.....	9
5.2.3 Turn-off signal.....	10
5.3 Turn-on and turn-off time.....	10
5.4 Load voltage rise and fall time.....	10
5.5 Isolation.....	10
5.6 Control signal levels.....	11
5.7 Voltage drop.....	11
5.8 Off state leakage current.....	11
5.9 Off state output voltage.....	11
5.10 Power dissipation.....	11
5.11 Overload characteristic tests.....	11
5.11.1 Current limiting.....	11
5.11.2 HPSSPC trip characteristics.....	12
5.12 State indication signal(s).....	12
5.13 HPSSPC trip-free characteristics.....	12
5.14 Zero voltage turn-on (ZVTO) and zero current turn-off (ZCTO).....	12
5.15 Reverse current.....	12
5.16 Exponential rate of voltage rise.....	13
5.17 Arc fault characteristics.....	14
5.17.1 Guillotine test.....	14
5.17.2 Wet arc fault test.....	16