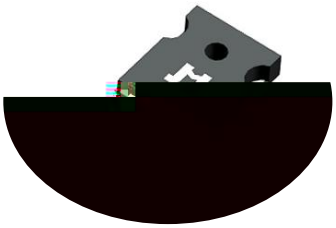
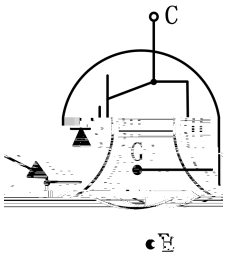
JJMICROELECTRONICS

- $_{CE}$ =650V
- $_{C}$=50A@ $_{C}$=100
- $_{CE(sat)}$=1.65V

TO-247





CES	Collector-emitter voltage	650	V
GES	Gate-emitter voltage	±20	V
C	Continuous collector current (C=25)	100	A
	Continuous collector current (C=100)	50	A
CM	Pulsed collector current, p limited by vjmax	200	A
F	Diode continuous forward current (C=100)	50	A
FM	Diode maximum current, p limited by vjmax	200	A
sc	Short circuit withstand time	10	µs
tot	Power dissipation (C=25)	333	W
	Power dissipation (C=100)	167	W
vj	Operating junction temperature range	-40 to +175	
stg	Storage temperature range	-55 to +150	

th(j-c)	Thermal resistance, junction to case for IGBT	-	0.45	K/ W
th(j-c)	Thermal resistance, junction to case for Diode	-	0.60	K/ W
th(j-a)	Thermal resistance, junction to ambient	-	40	K/

A dc f a c edad bec eadca e .

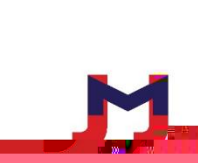
($_{vj}$=25 unless otherwise specified)

Static characteristics

$_{CES}$	Collector-emitter breakdown voltage	$_{GE}$=0V, I_C=250μA	650	-	-	V
$_{CES}$	Collector-emitter leakage current	$_{CE}$=650V, $_{GE}$=0V	-	-	50	μA
$_{GES}$	Gate leakage current, forward	$_{GE}$=20V, $_{CE}$=0V	-	-	100	nA
	Gate leakage current, reverse	$_{GE}$=-20V, $_{CE}$=0V	-	-	-100	nA
$_{GE(th)}$	Gate-emitter threshold voltage	$_{GE}$= $_{CE}$, $_{C}$=1mA	5.3	5.7	6.1	V
$_{CE(sat)}$	Collector-emitter saturation voltage	$_{GE}$=15 V, $_{C}$=50A	-	1.65	-	V
		$_{GE}$=15V, $_{C}$=50A, $_{vj}$=175	-	2.10	-	V

Dynamic characteristics

$_{ies}$	Input capacitance	$_{CE}$=30V $_{GE}$=0V =1MHz	-	2890	-	pF
$_{oes}$	Output capacitance		-	170	-	pF
$_{res}$	Reverse transfer capacitance		-	34	-	pF
$_{g}$	Total gate charge	$_{CC}$=520V $_{GE}$=15V $_{C}$=50A	-	185	-	nC





A d c f a c

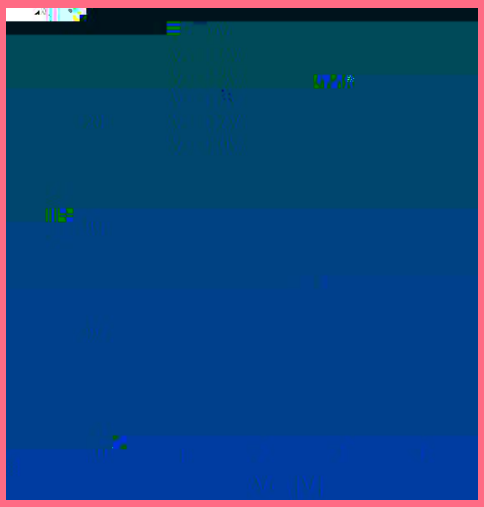


Fig 1. Typical output characteristic (vj=25)

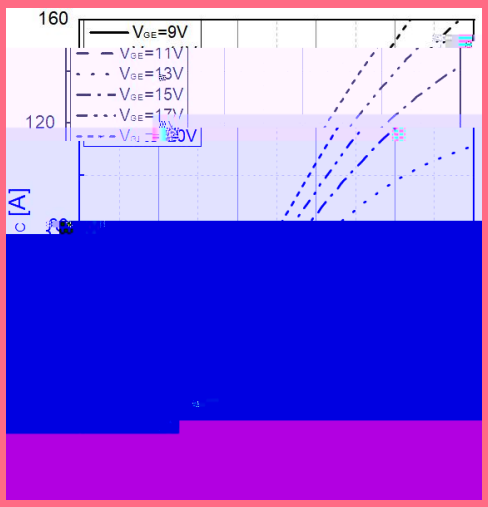


Fig 2. Typical output characteristic(vj=175)

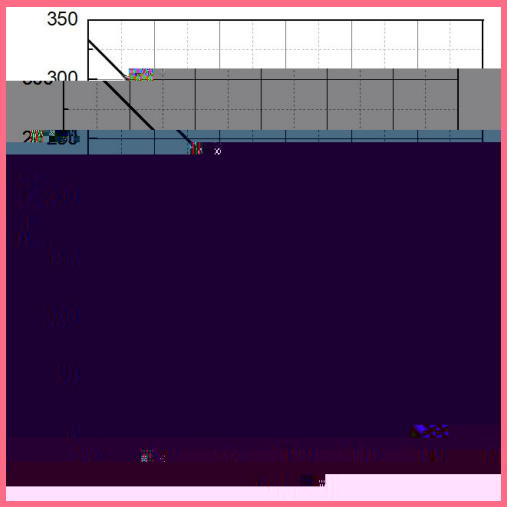


Fig 3. Power dissipation as a function of

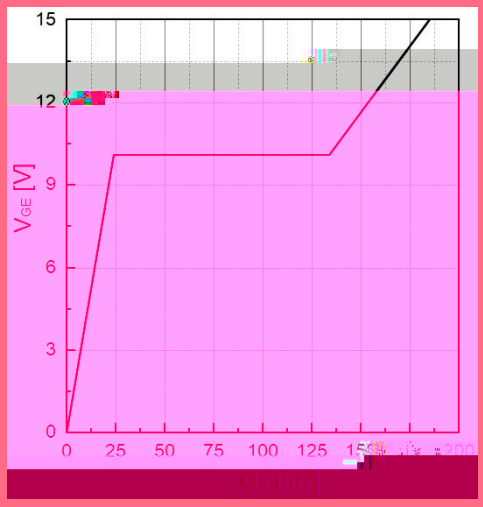


Fig 4. Typical Gate charge

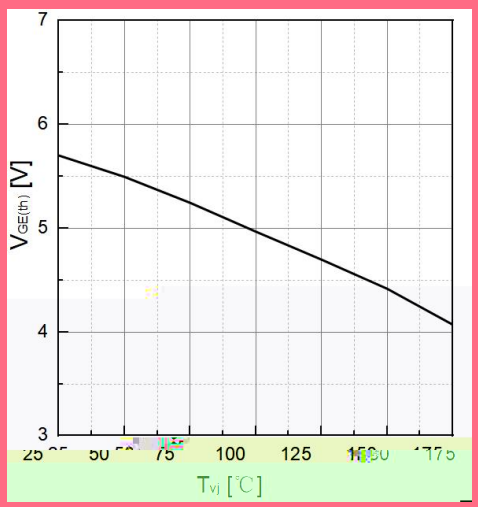


Fig 5. Typical GE(th) as a function of vj (C=1mA)

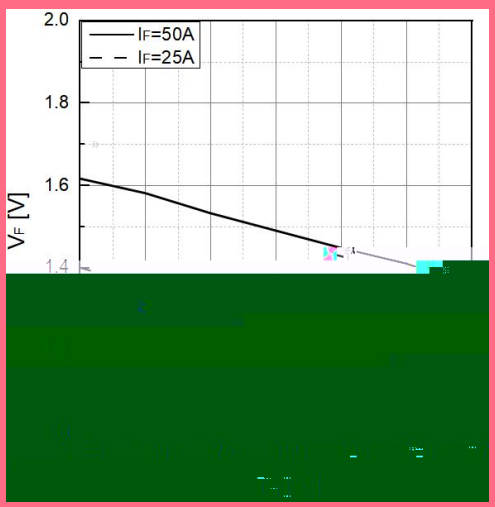
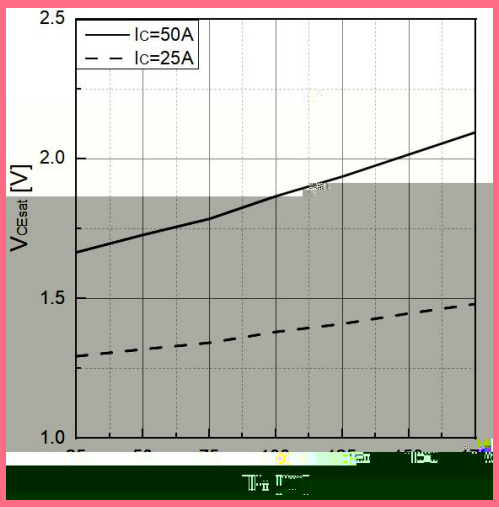


Fig 6. Typical F as a function of vj

A d c f a c ed a d bec e a d ca e .


2.5
2.0
1.5
1.0
IC=50A
IC=25A
VCEsat [V]

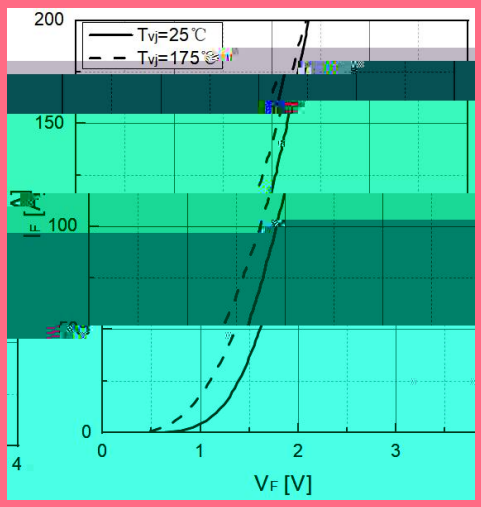

200
150
100
0
Tvj=25℃
Tvj=175℃
0
1
2
3
VF [V]

Fig 7. Typ l



A d c f a c edad b

Date	Revision	Changes
2025-04-21	Rev 1.0	Release of the preliminary datasheet.
2025-12-10	Rev 1.1	Update after full Characterization
2026-06-25	Rev 1.2	Update thermal

PLEASE NOTE - Jiangsu JieJie Microelectronics Co., Ltd ("JJM") reserves the right to amend, correct, modify and enhance the product and/or this document at any time without prior notice. If you intend to purchase this product, please obtain the latest information available before placing your order. The sale of JJM products is governed by JJM's prevailing terms and conditions at the time of purchase and purchasers are solely responsible for the selection and use of the products with no liability on JJM's part to supply application assistance or customization. Purchase of JJM products does not grant the purchaser license, express or implied, to JJM's intellectual property. Any warranties provided with JJM products are null and void upon resale unless accompanied by the information set forth herein in its entirety. The JJM name and logo are registered trademarks of Jiangsu JieJie Microelectronics Co., Ltd. This document supersedes all previous versions. ©2026 JJM - All rights reserved