

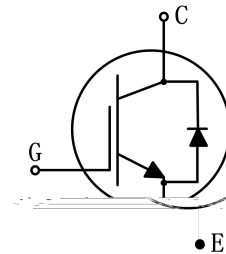
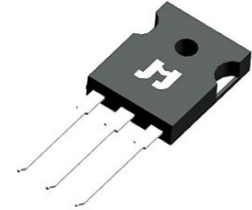
:

- $V_{CE} = 1350V$
- $I_C = 40A @ V_{CE} = 100$
- $V_{CE(sat)} = 2.0V$

TO-247

:

- Trench and field-stop technology
- High speed switching
- Positive $V_{CE(sat)}$ temperature coefficient.
- Fast switching and short tail current.
- High ruggedness performance



A :

- Induction cooking
- Resonant converters

Type	Marking	Package	Packaging Method
JJT40N135UE	T40135UE	TO-247	Tube



CES	Collector-emitter voltage	1350	V
GES	Gate-emitter voltage	± 20	V
C	Continuous collector current ($I_{C=25}$)	80	A
	Continuous collector current ($I_{C=100}$)	40	A
CM	Pulsed collector current, I_p limited by v_{jmax}	160	A
F	Diode continuous forward current ($I_{C=100}$)	40	A
FM	Diode maximum current, I_p limited by v_{jmax}	160	A
tot	Power dissipation ($P_{C=25}$)	469	W
	Power dissipation ($P_{C=100}$)	235	W
vj	Operating junction temperature range	-40 to +175	
stg	Storage temperature range	-55 to +150	

B ($v_j=25$ unless otherwise specified)

Static characteristics

			.	.	.	
CES	Collector-emitter breakdown voltage	$V_{GE}=0V, I_C=250\text{ A}$	1350	-	-	V
CES	Collector-emitter leakage current	$V_{CE}=1350V, V_{GE}=0V$	-	-	100	A
GES	Gate leakage current, forward	$V_{GE}=20V, V_{CE}=0V$	-	-	100	nA
	Gate leakage current, reverse	$V_{GE}=-20V, V_{CE}=0V$	-	-	-100	nA
GE(th)	Gate-emitter threshold voltage	$V_{GE}=V_{CE}, I_C=1\text{mA}$	4.7	5.7	6.7	V
CE(sat)	Collector-emitter saturation voltage	$V_{GE}=15\text{ V}, I_C=40\text{A}$	-	2.0	-	V
		$V_{GE}=15\text{V}, I_C=40\text{A}, v_j=175$	-	2.7	-	V

Dynamic characteristics

			.	.	.	
ies	Input capacitance	$V_{CE}=30V$ $V_{GE}=0V$ $f=1\text{MHz}$	-	2014	-	pF
oes	Output capacitance		-	99	-	pF
res	Reverse transfer capacitance		-	20	-	pF
g	Total gate charge	$Q_{CC}=1080V$ $I_C=15V$ $I_C=40A$	-	121	-	nC



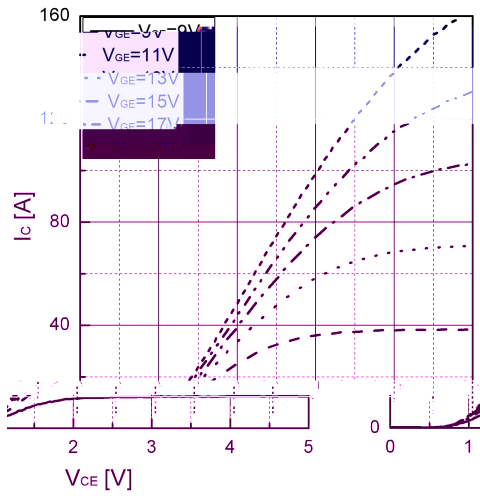


Fig 1. Typical output characteristic ($v_j=25$)

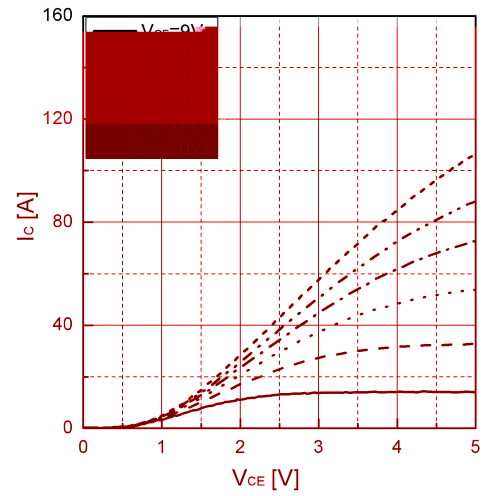


Fig 2. Typical output characteristic($v_j=175$)

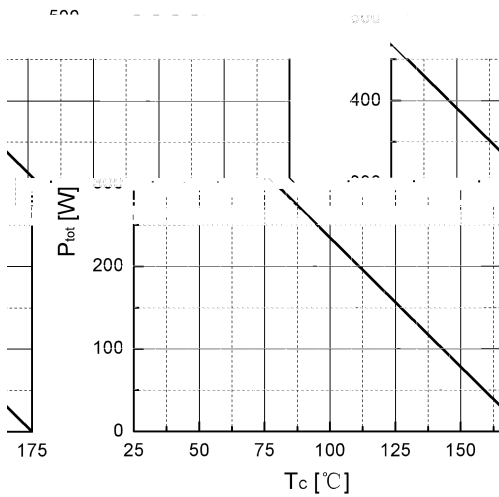


Fig 3. Power dissipation as a function of

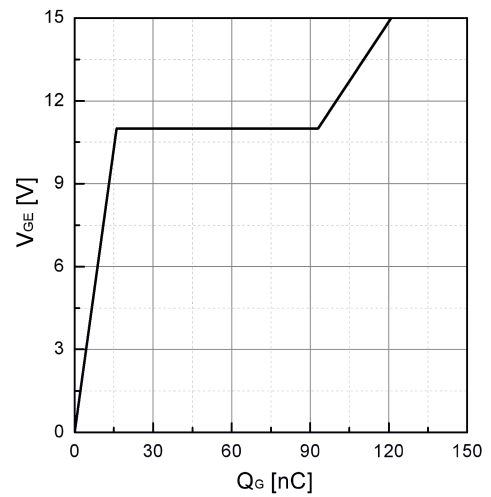


Fig 4. Typical Gate charge

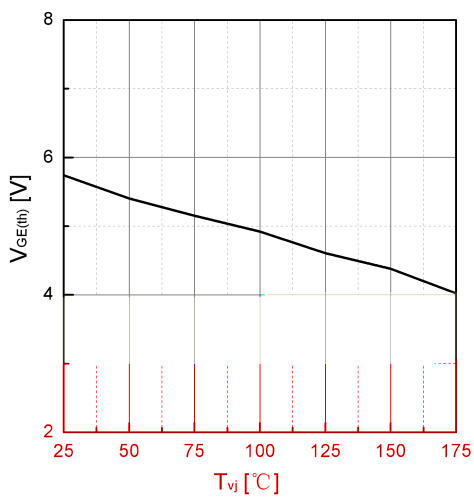


Fig 5. Typical $V_{GE(th)}$ as a function of v_j ($c=1mA$)

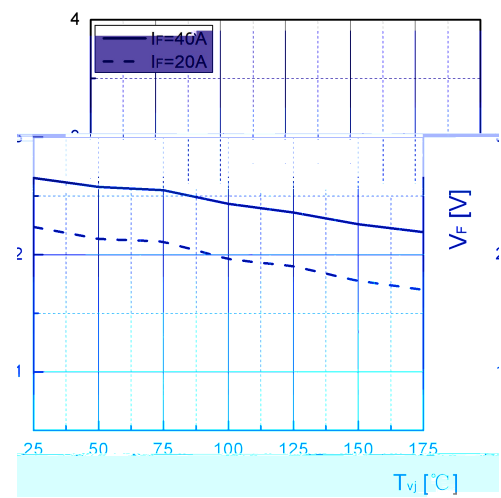


Fig 6. Typical V_F as a function of v_j

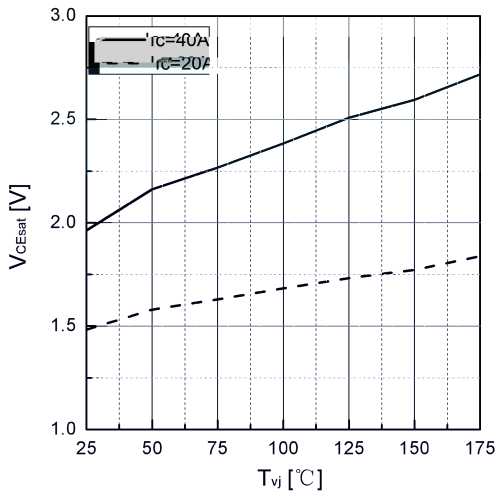


Fig 7. Typical V_{CEsat} as a function of T_{vj}

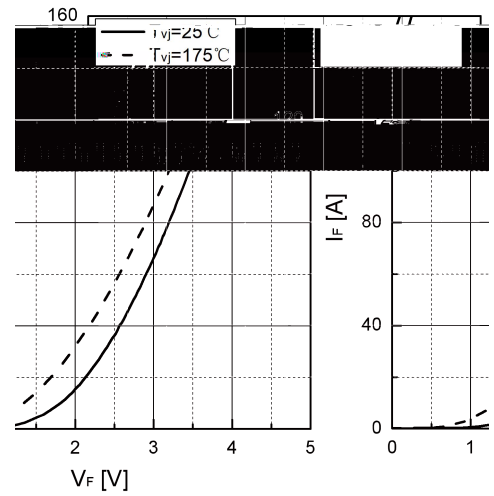


Fig 8. Typical I_F as a function of V_F

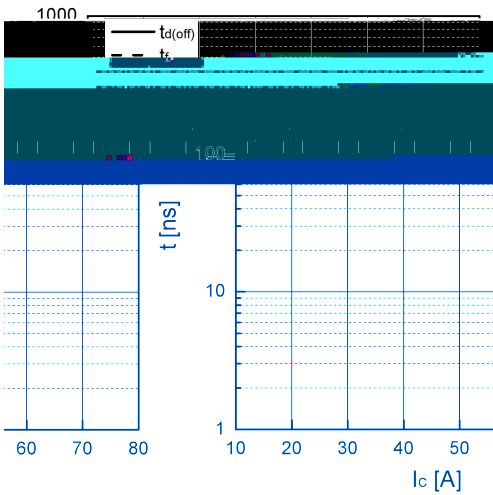


Fig 9. Typical switching time as a function of I_c

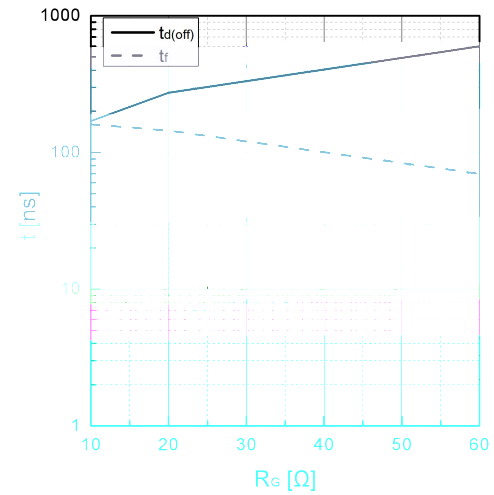


Fig 10. Typical switching times as a function of R_G

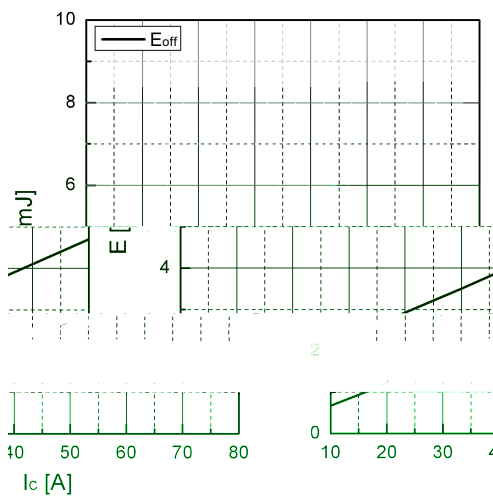


Fig 11. Typical switching energy losses as a function of I_c

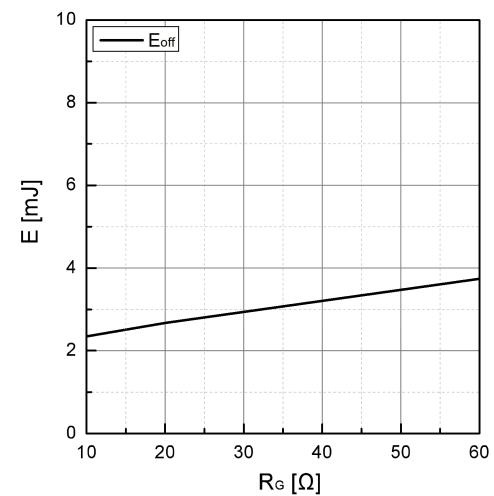


Fig 12. Typical switching energy losses as a function of R_e

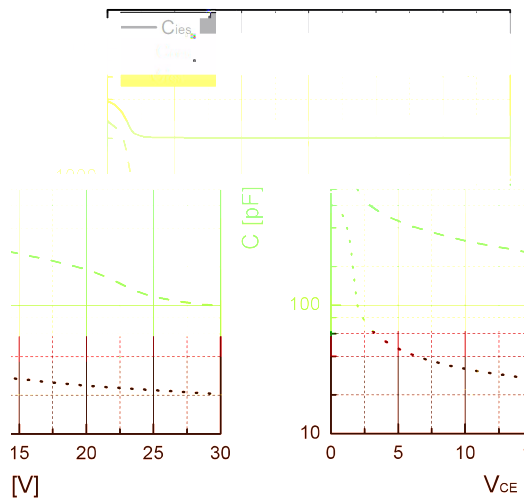


Fig 13. Typical capacitance as a function of V_{CE}
($f=1\text{MHz}$, $V_{GE}=0\text{V}$)

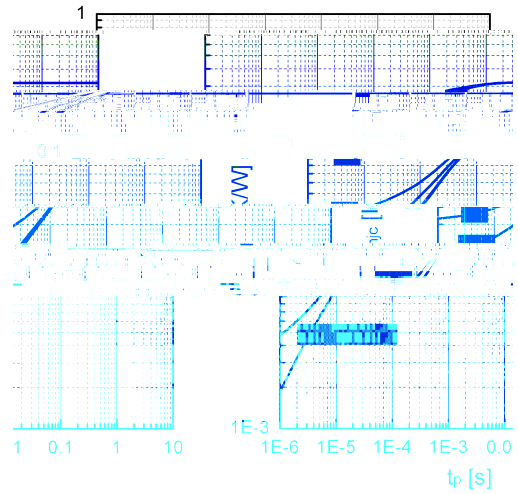
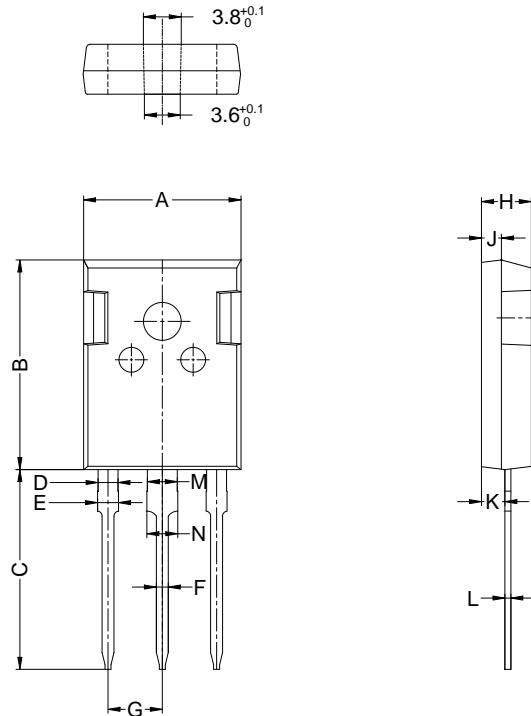


Fig 14. Transient thermal impedance of IGBT

TO-247



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.50	15.80	16.10	0.610	0.622	0.634
B	20.80	21.00	21.20	0.819	0.827	0.835
C	19.70	20.00	20.30	0.776	0.787	0.799
D	1.80	2.00	2.20	0.071	0.079	0.087
E	1.90	2.10	2.30	0.075	0.083	0.091
F	1.00	1.20	1.40	0.039	0.047	0.055
G	5.25	-	5.65	0.207	-	0.222
H	4.80	5.00	5.20	0.189	0.197	0.205
J	1.90	2.00	2.10	0.075	0.079	0.083
K	2.20	2.35	2.50	0.087	0.093	0.098
L	0.41	0.60	0.79	0.016	0.024	0.031
M	2.80	3.00	3.20	0.110	0.118	0.126
N	2.90	3.10	3.30	0.114	0.122	0.130

Date	Revision	Changes
2025-02-05	Rev 1.0	Release of the preliminary datasheet.
2025-02-27	Rev 1.1	Add graph and character update

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. ©2025 JJM - All rights reserved