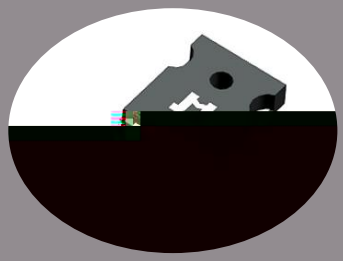
JJMICROELECTRONICS

650V 40A Trench and Field Stop IGBT

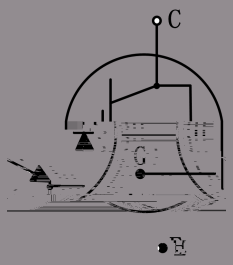
JJT40N65LE

- V_{CE}=650V
- I_C=40A@ T_C=100
- $V_{CE(sat)}$=1.4V

TO-247



- Trench and field-stop technology.
- Easy parallel switching capability.



- High efficiency for inverters.
- High ruggedness performance.
- RoHS compliant.

- EV chargers

Type	Marking	Package	Packaging Method
JJT40N65LE	T4065LE	TO-247	Tube

All product information is copyrighted and subject to legal disclaimers.

All product information is copyrighted and subject to legal disclaimers.

All product information is copyrighted and subject to legal disclaimers.

$t_{d(on)}$ Turn-on delay time

V_{CC}=400V

V_{GE}=0/15V

I_C=40A

R_G=10

Inductive load

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

$_{F}$	Diode forward voltage	$_{F}$=40A	-	1.4	-	V
		$_{F}$=40A, $_{vj}$=175	-	1.2	-	V
$_{rr}$	Diode reverse recovery time	$_{R}$=400V $_{F}$=40A d $_{F}$/d =-400A/μs	-	194	-	ns
$_{rrm}$	Diode peak reverse recovery current		-	12	-	A
$_{rr}$	Diode reverse recovery charge		-	1803	-	nC
$_{rr}$	Diode reverse recovery time	$_{R}$=400V $_{F}$=40A d $_{F}$/d =-400A/μs $_{vj}$=175	-	305	-	ns
$_{rrm}$	Diode peak reverse recovery current		-	22	-	A
$_{rr}$	Diode reverse recovery charge		-	3466	-	nC

All product information is copyrighted and subject to legal disclaimers.

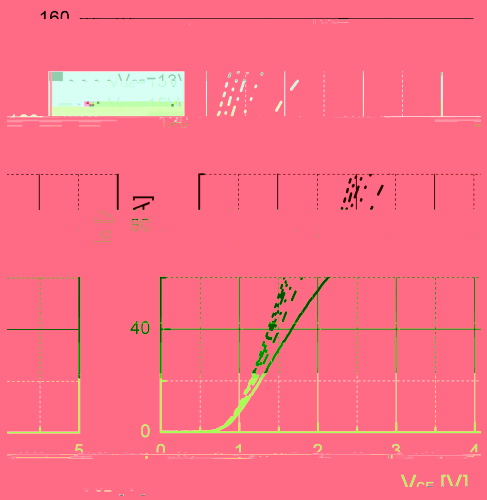


Fig 1. Typical output characteristic ($_{vj}$=25)

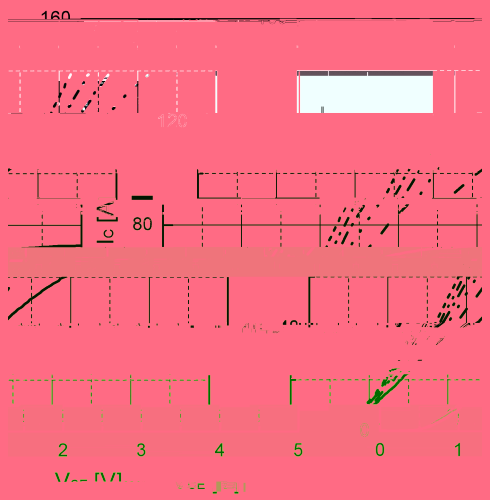


Fig 2. Typical output characteristic($_{vj}$=175)

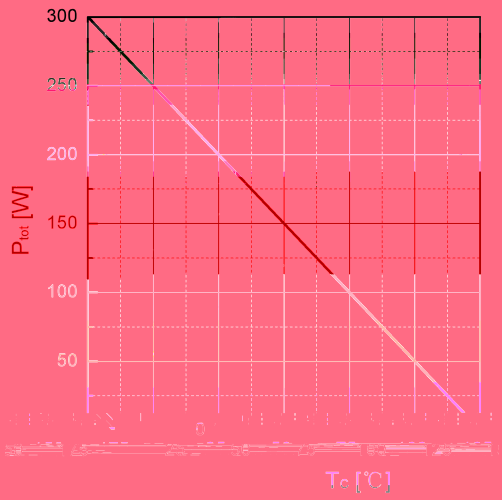


Fig 3. Power dissipation as a function of

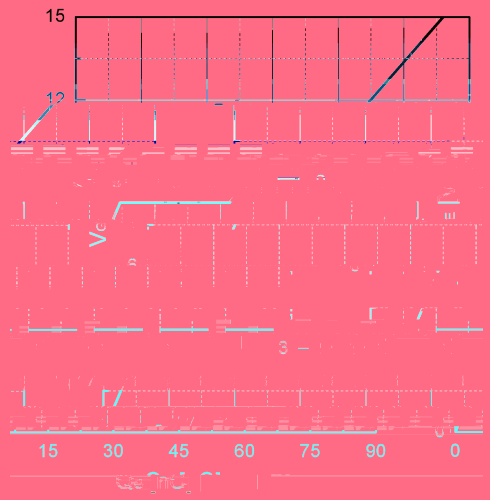


Fig 4. Typical Gate charge

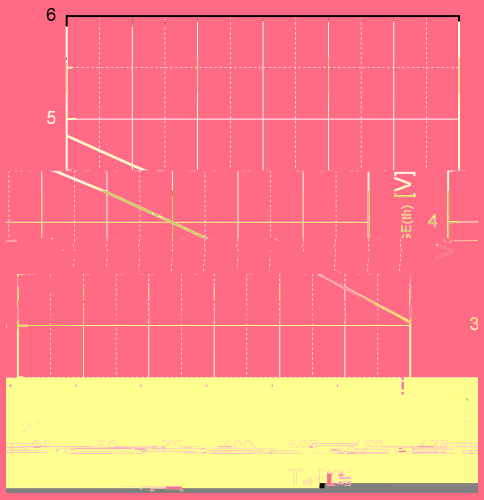


Fig 5. Typical $_{GE(th)}$ as a function of $_{vj}$ ($_{C}$=1mA)

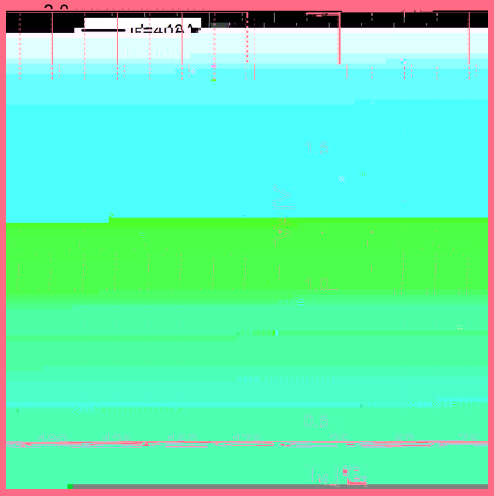


Fig 6. Typical $_{F}$ as a function of $_{vj}$

All product information is copyrighted and subject to legal disclaimers.

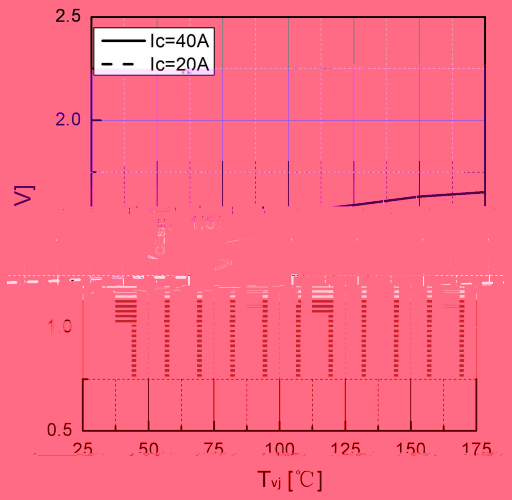


Fig 7. Typical $_{CEsat}$ as a function of $_{vj}$

Fig 8. Typical $_{F}$ as a function of $_{F}$

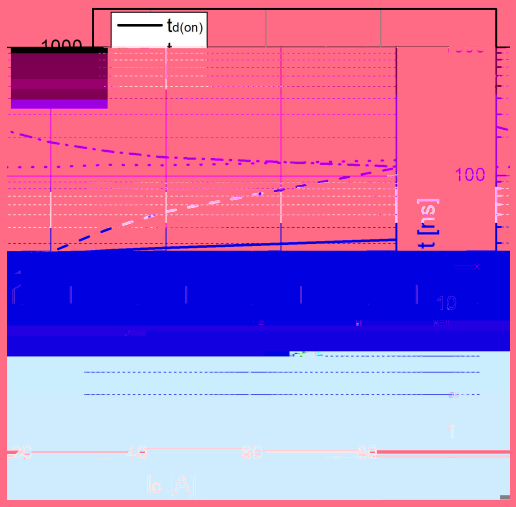


Fig 9. Typical switching time as a function of $_{C}$

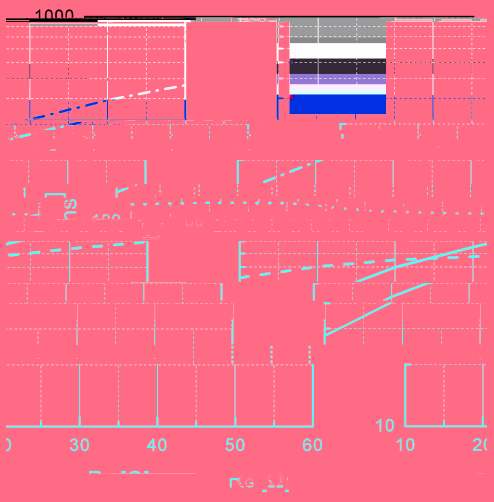


Fig 10. Typical switching times as a function of $_{G}$

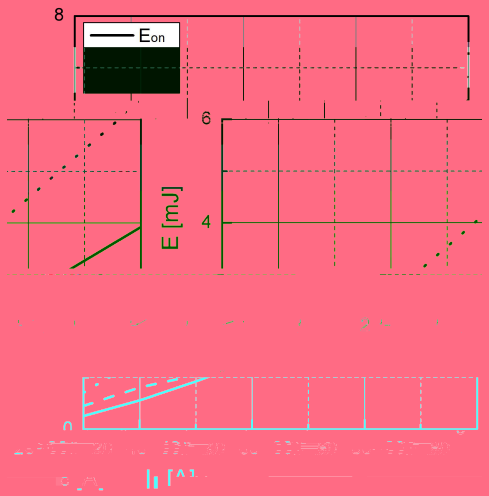


Fig 11. Typical switching energy losses as a function of $_{C}$

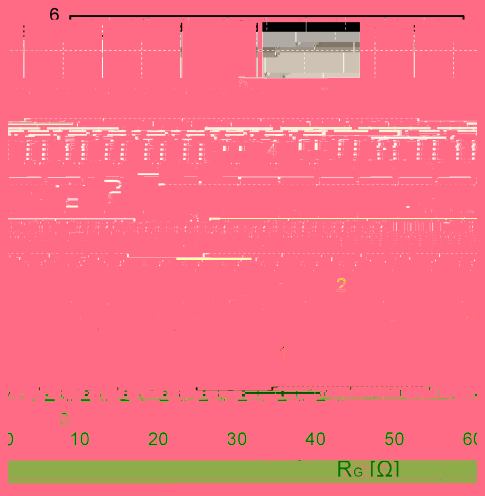


Fig 12. Typical switching energy losses as a function of $_{G}$

All product information is copyrighted and subject to legal disclaimers.

Dimensions						
Ref.	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

All product information is copyrighted and subject to legal disclaimers.

Date	Revision	Changes
2024-09-10	Rev 1.0	Release of the datasheet
2025-04-30	Rev 1.1	Add graph and character update

PLEASE NOTE -

All product information is copyrighted and subject to legal disclaimers.