

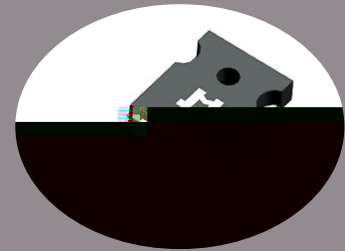
650V 40A Trench and Field Stop IGBT

JJT40N65LE

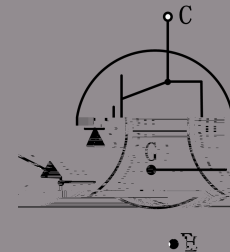
- $V_{CE} = 650V$
- $I_C = 40A @ V_{CE} = 100V$
- $V_{CE(sat)} = 1.4V$

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







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

$V_{CC}=400V$

$V_{CE}=0/15V$

$I_C=40A$

$G=10$

Inductive

($v_j=25$ unless otherwise specified)

F	Diode forward voltage	$I_F=40A$	-	1.4	-	V
		$I_F=40A, v_j=175$	-	1.2	-	V
t_{rr}	Diode reverse recovery time	$V_R=400V$ $I_F=40A$ $d I_F/d t = -400A/\mu s$	-	194	-	ns
I_{rrm}	Diode peak reverse recovery current		-	12	-	A
Q_{rr}	Diode reverse recovery charge		-	1803	-	nC
t_{rr}	Diode reverse recovery time	$V_R=400V$ $I_F=40A$ $d I_F/d t = -400A/\mu s$ $v_j=175$	-	305	-	ns
I_{rrm}	Diode peak reverse recovery current		-	22	-	A
Q_{rr}	Diode reverse recovery charge		-	3466	-	nC

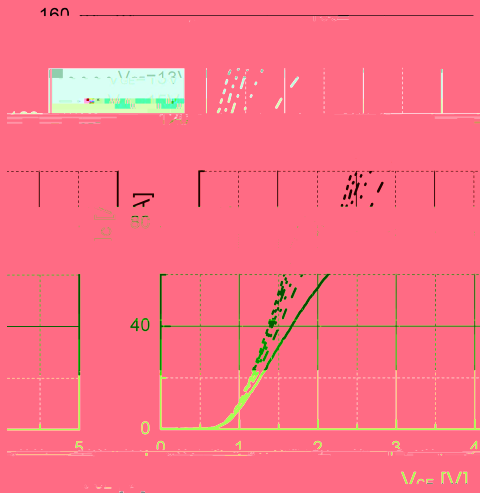


Fig 1. Typical output characteristic ($v_j=25$)

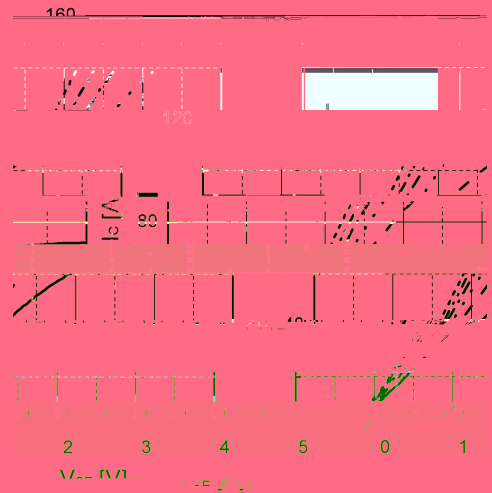


Fig 2. Typical output characteristic($v_j=175$)



Fig 3. Power dissipation as a function of

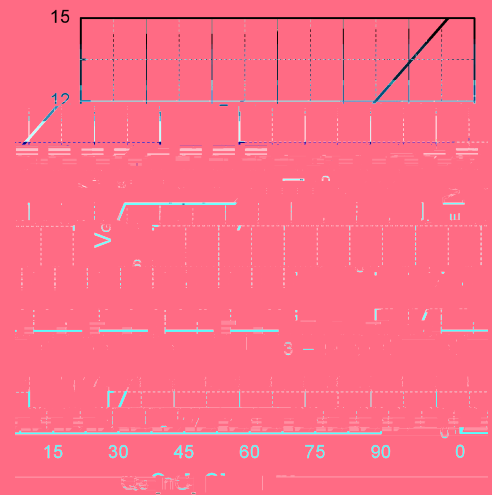


Fig 4. Typical Gate charge

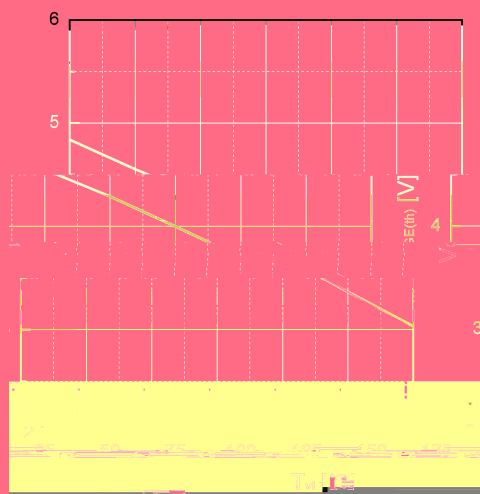


Fig 5. Typical $GE(th)$ as a function of v_j
($c=1mA$)

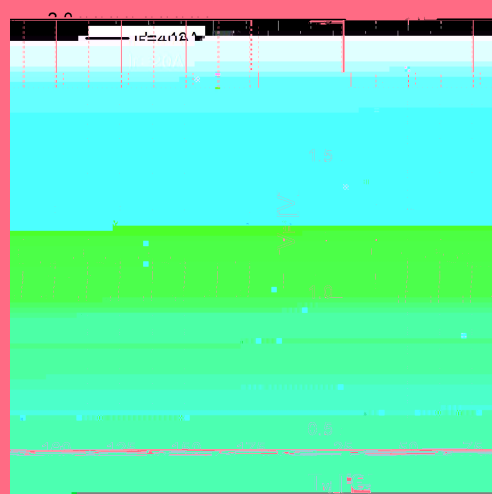


Fig 6. Typical F as a function of v_j

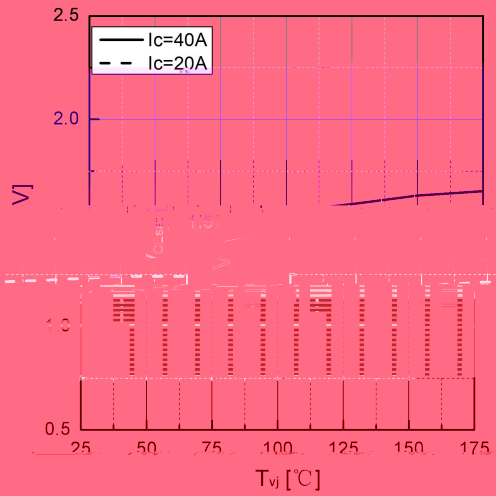


Fig 7. Typical C_{ESat} as a function of v_j

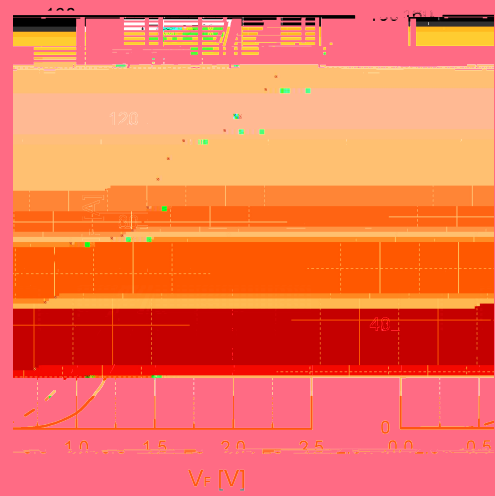


Fig 8. Typical F as a function of F

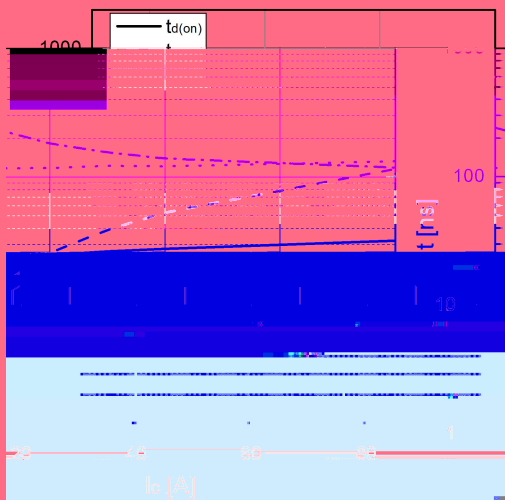


Fig 9. Typical switching time as a function of c

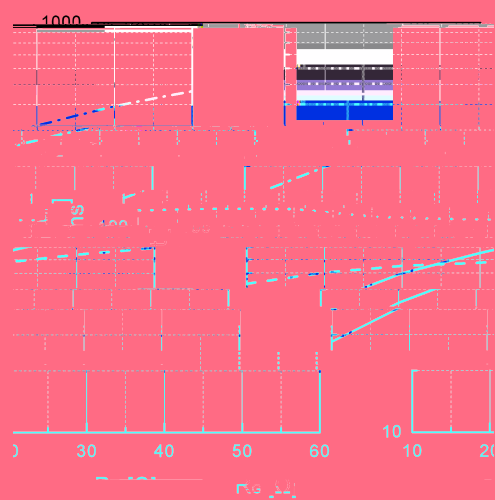


Fig 10. Typical switching times as a function of G

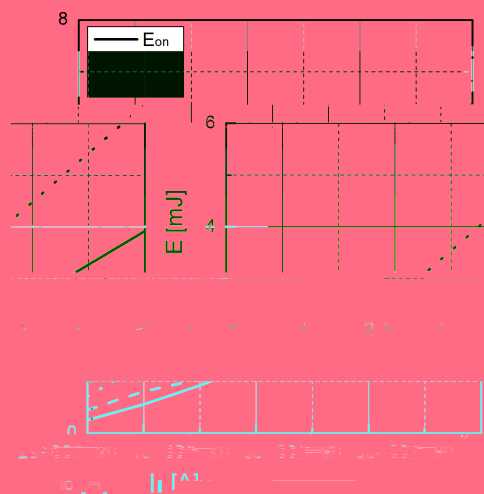


Fig 11. Typical switching energy losses as a function of c

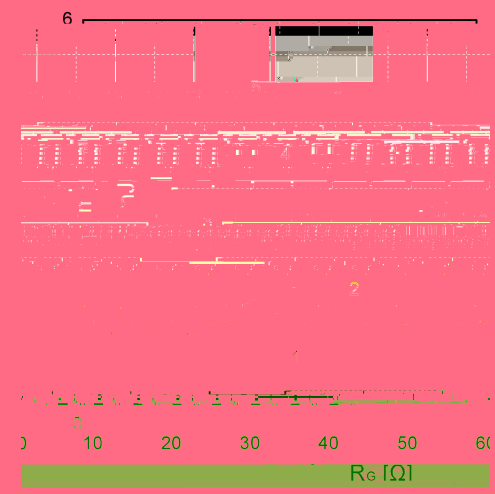


Fig 12. Typical switching energy losses as a function of G



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



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 -