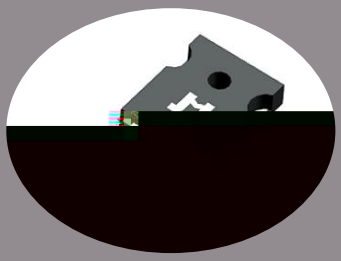
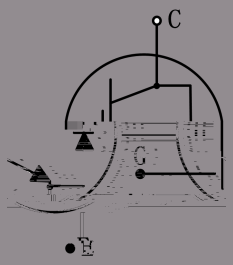
- V_{CE} =650V
- I_C=40A@ T_C=100
- $V_{CE(sat)}$=1.7V

TO-247i



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



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

- PFC applications
- Uninterruptible power supplies
- Solar inverters

Type	Marking	Package	Packaging Method
JJT40N65HK	T4065HK	TO-247i	Tube

V_{CES}	Collector-emitter voltage	650	V
V_{GES}	Gate-emitter voltage	±20	V
I_C	Continuous collector cur		

$_{CES}$	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	4.0	5.0	6.0	V
$_{CE(sat)}$	Collector-emitter saturation voltage	$_{GE}$=15 V, $_{C}$=40A	-	1.7	-	V
		$_{GE}$=15V, $_{C}$=40A, $_{vj}$=175	-	2.3	-	

Switching characteristics

$t_{d(on)}$	Turn-on delay time	V_{CC}=400V V_{GE}=0/15V I_C=40A R_G=10 Inductive load	-	32	-	ns
t_r	Rise time		-	59	-	ns
$t_{d(off)}$	Turn-off delay time		-	110	-	ns
t_f	Fall time		-	52	-	ns
E_{on}	Turn-on energy		-	1.2	-	mJ
E_{off}	Turn-off energy		-	0.6	-	mJ
E_{ts}	Total switching energy		-	1.8	-	mJ
$t_{d(on)}$	Turn-on delay time	V_{CC}=400V V_{GE}=0/15V I_C=40A R_G=10 Inductive load T_{vj}=175	-	28	-	ns
t_r	Rise time		-	51	-	ns
$t_{d(off)}$	Turn-off delay time		-	131	-	ns
t_f	Fall time		-	78	-	ns
E_{on}	Turn-on energy		-	1.6	-	mJ
E_{off}	Turn-off energy		-	1.0	-	mJ
E_{ts}	Total switching energy		-	2.6	-	mJ

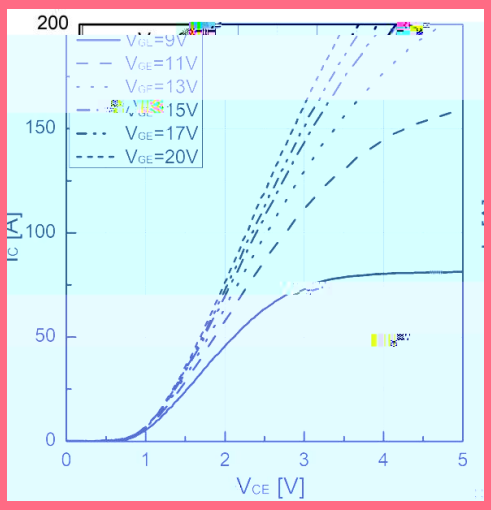


Fig 1. Typical output characteristic (vj=25)

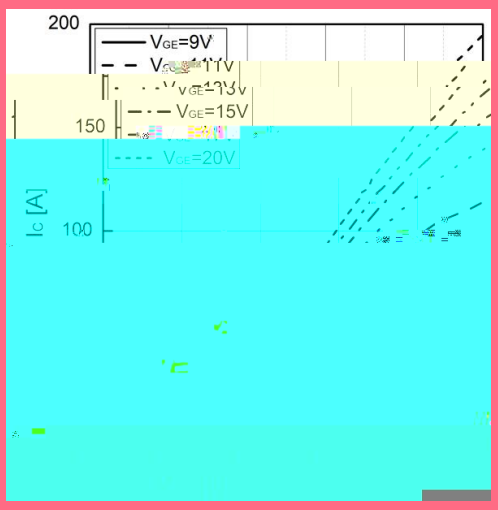


Fig 2. Typical output characteristic(vj=175)

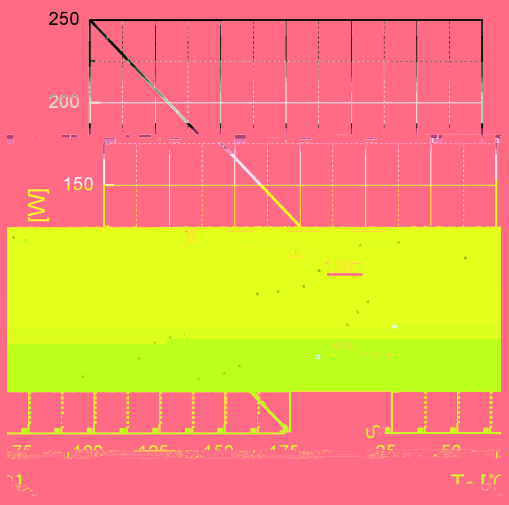


Fig 3. Power dissipation as a function of

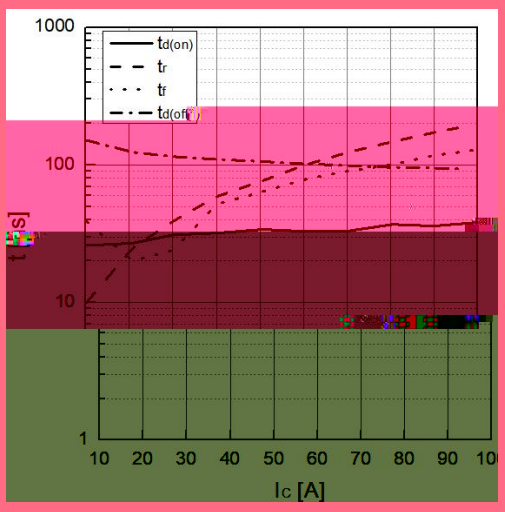


Fig 4. Typical switching time as a function of C

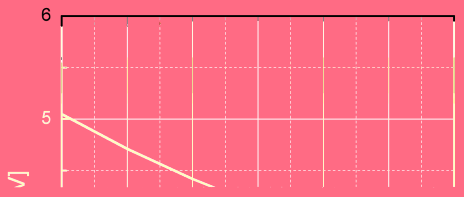


Fig 5. Typical GE(th) as a function of vj (C=1mA)

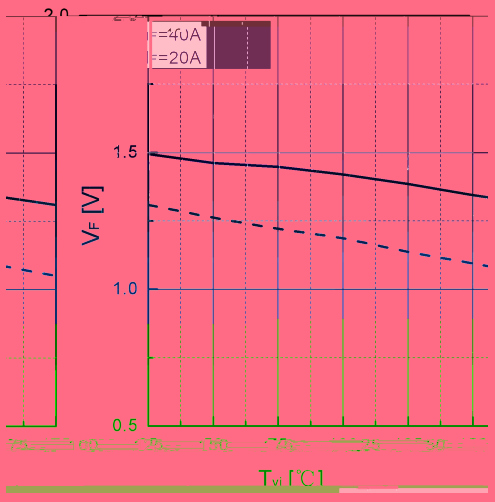


Fig 6. Typical F as a function of vj

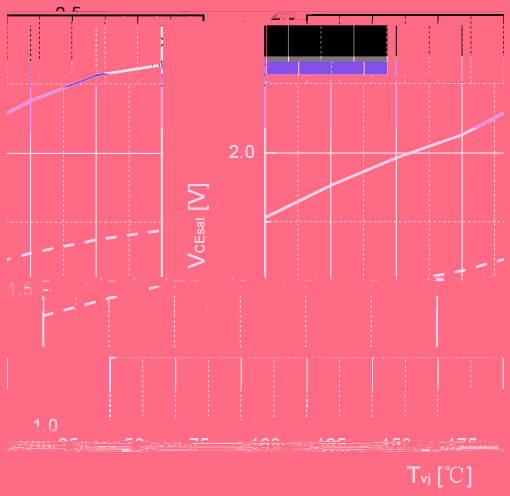


Fig 7. Typical $_{CEsat}$ as a function of $_{vj}$

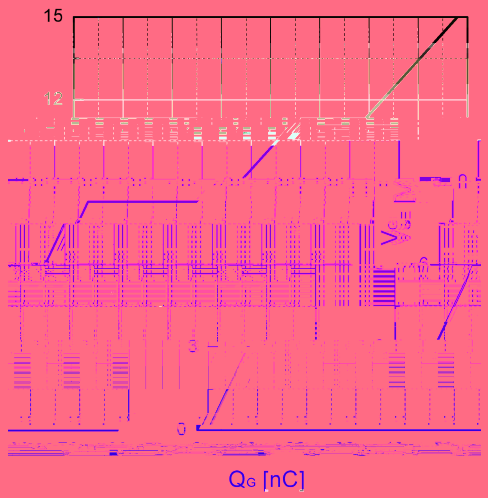


Fig 8. Typical Gate charge

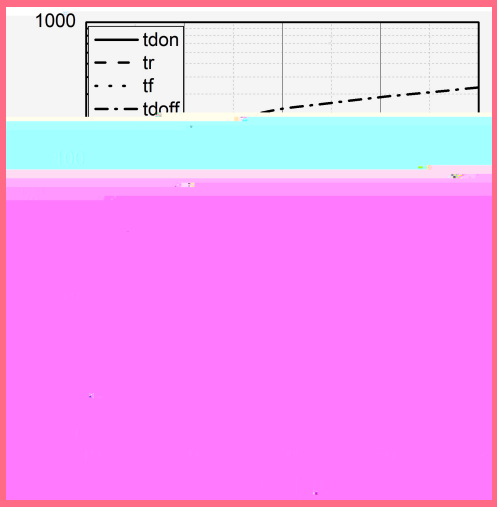


Fig 9. Typical switching times as a function of $_{G}$

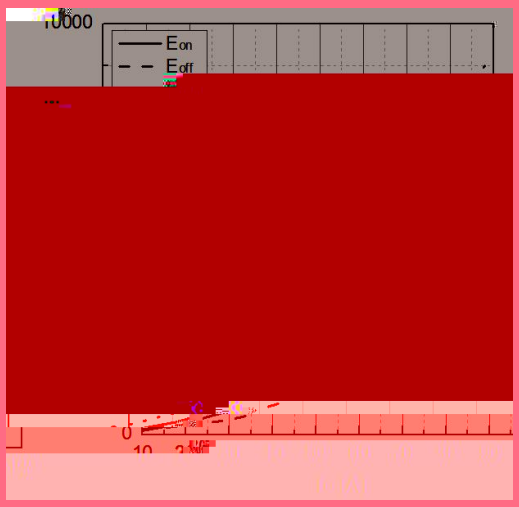


Fig 10. Typical switching energy losses as a function of $_{C}$

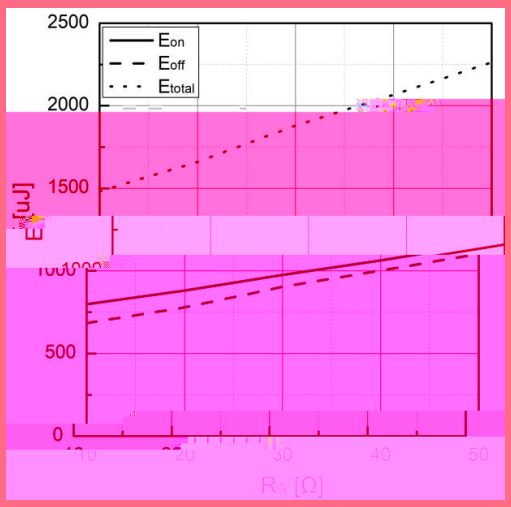


Fig 11. Typical switching energy losses as a function of $_{G}$

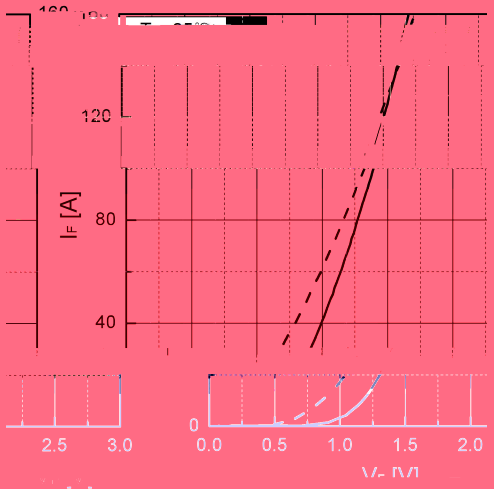


Fig 12. Typical $_{F}$ as a function of $_{F}$

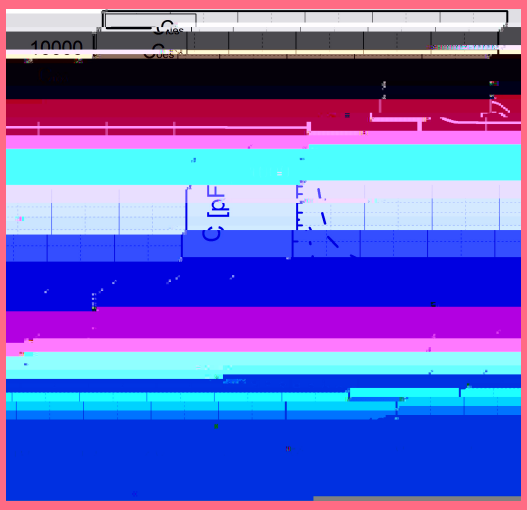


Fig 13. Typical capacitance as a function of $_{CE}$ (f=1Mhz, $_{GE}$=0V)

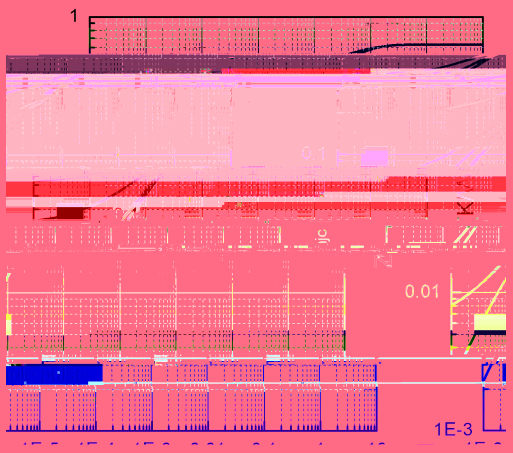


Fig 14. Transient thermal impedance of IGBT

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.95	16.00	16.05	0.627	0.629	0.631
B	21.85	21.90	21.92	0.860	0.862	0.864
B1	5.15	5.20	5.25	0.202	0.204	0.206
B2	4.32	4.37	4.			

Date	Revision	Changes
2024-10-22	Rev 1.0	Release of the datasheet
2025-01-18	Rev 1.1	Modify Rth