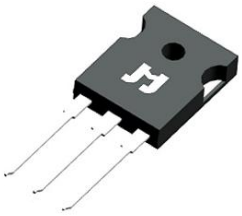
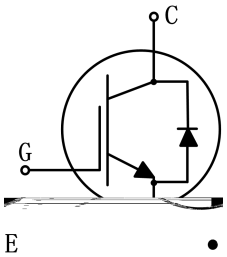
- V_{CE} =650V
- I_C=50A@ T_C=100
- $V_{CE(sat)}$=1.9V

TO-247



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



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

- PFC applications
- Welding machines

Type	Marking	Package	Packaging Method
JJT50N65UE	T5065UE	TO-247	Tube

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[redacted]

V_{CES}	Collector-emitter voltage	650	V
V_{GES}	Gate-emitter voltage	±20	V
I_C	Continuous collector current (T_C=25)	100	A
	Continuous collector current (T_C=100)	50	A
I_{CM}	Pulsed collector current, t_p limited by T_{vjmax}	200	A
I_F	Diode continuous forward current (T_C=100)	50	A
I_{FM}	Diode maximum current, t_p limited by T_{vjmax}	200	A
P_{tot}	Power dissipation (T_C=25)	333 q	W

[redacted]

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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					

-

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$t_{d(on)}$	Turn-on delay time	-	50	-	ns

V_{CC}=400V
V_{GE}=0/15V
I_C=50A
R_G=10Ω
Inductive load

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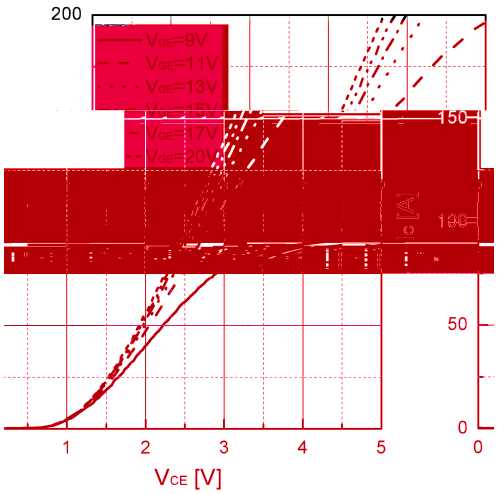

Fig 1. Typical output characteristic (vj=25)

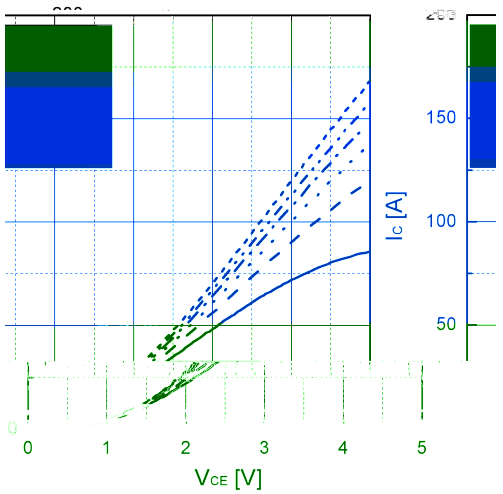

Fig 2. Typical output characteristic(vj=175)

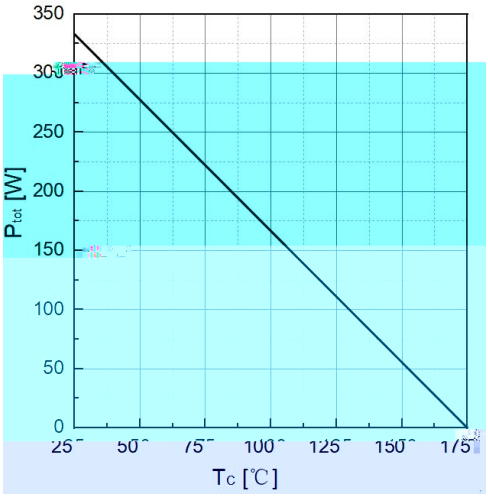

Fig 3. Power dissipation as a function of

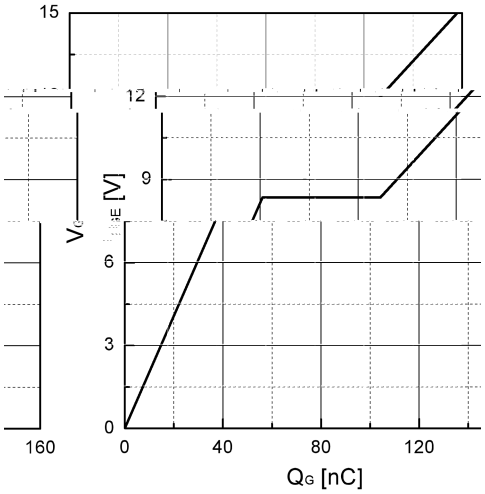

Fig 4. Typical Gate charge

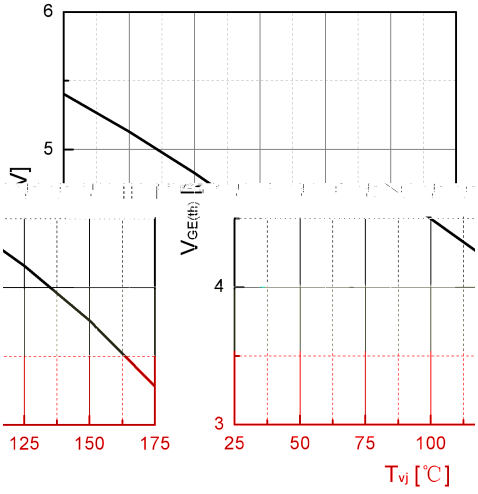

Fig 5. Typical GE(th) as a function of vj (C=1mA)

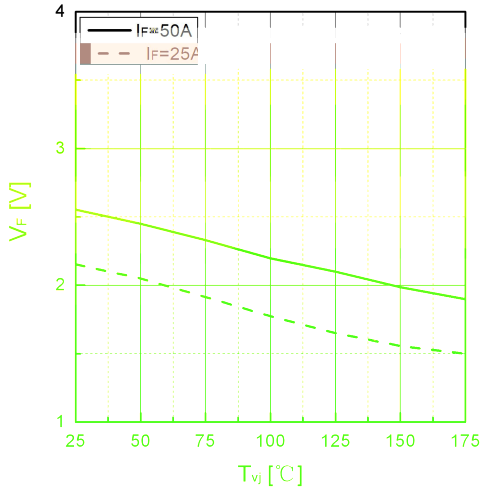

Fig 6. Typical F as a function of vj

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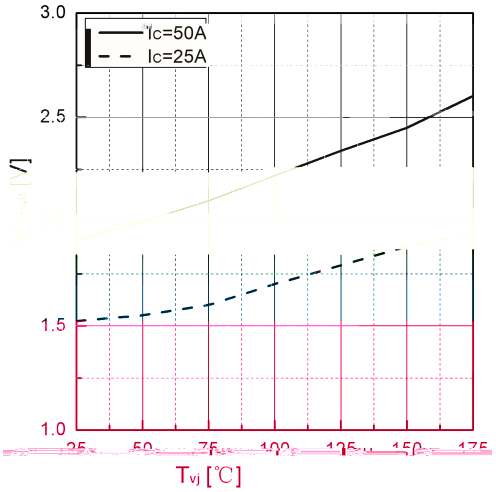

Fig 7. Typical $_{CEsat}$ as a function of $_{vj}$

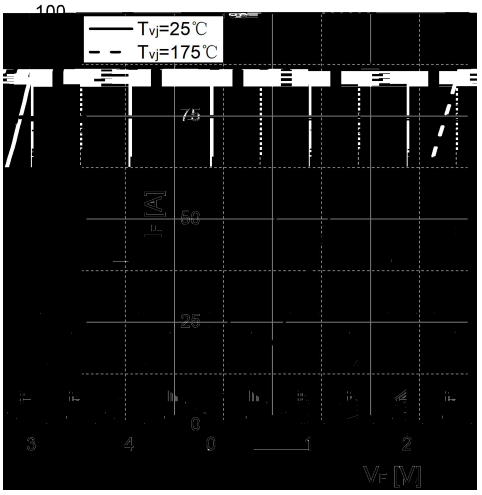

Fig 8. Typical $_{F}$ as a function of $_{F}$

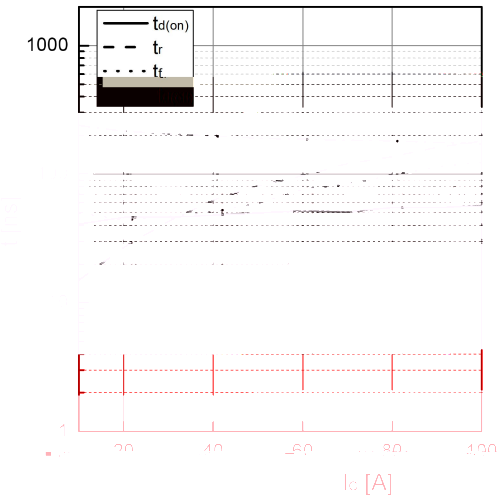

Fig 9. Typical switching time as a function of $_{C}$

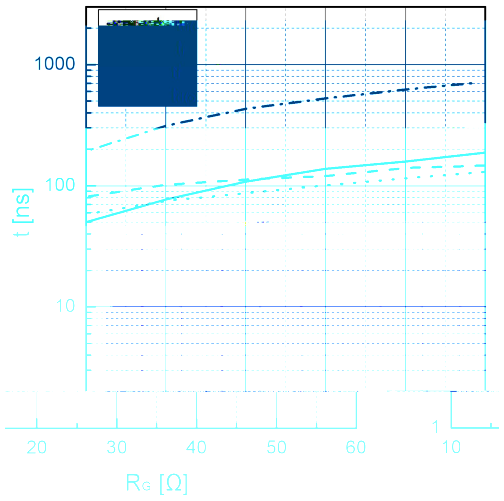

Fig 10. Typical switching times as a function of $_{G}$

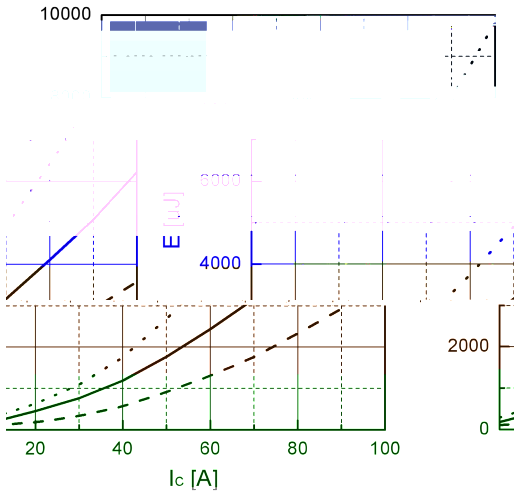

Fig 11. Typical switching energy losses as a function of $_{C}$

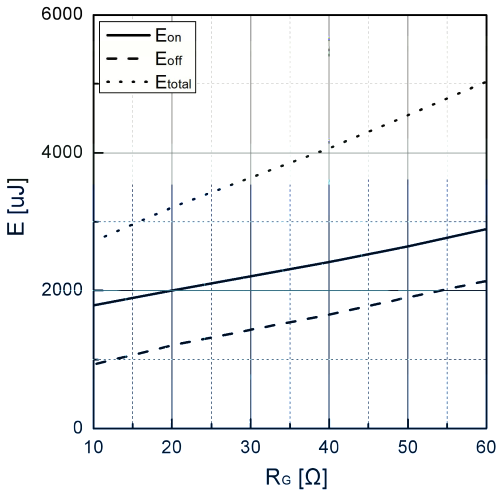

Fig 12. Typical switching energy losses as a function of $_{G}$

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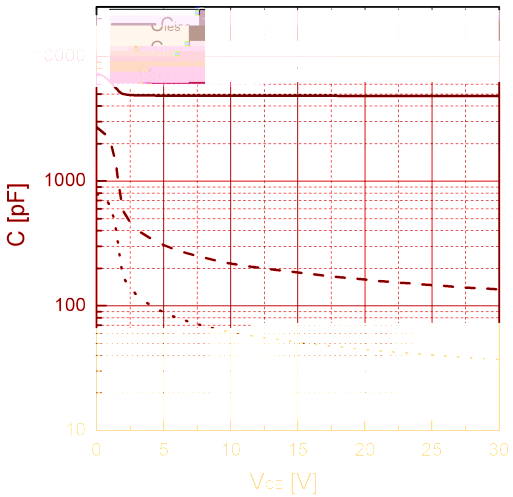

Fig 13. Typical capacitance as a function of $_{CE}$ (f=1Mhz, $_{GE}$=0V)

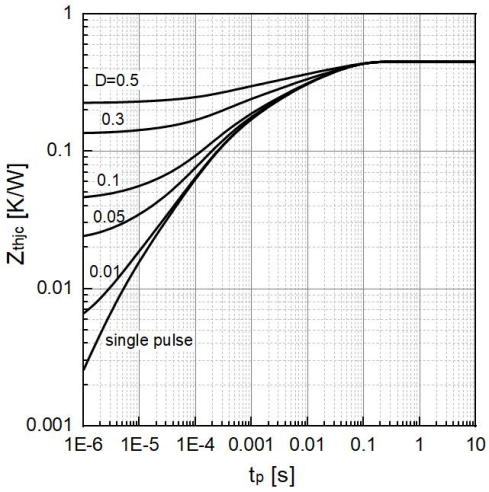

Fig 14. Transient thermal impedance of IGBT

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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

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Date	Revision	Change
2023-[illegible]-27	Rev 1.1	Update
2024-05-17	Rev 1.2	Update
2024-06-06	Rev 2.0	Update
2026-06-25	Rev 2.1	Update thermal

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