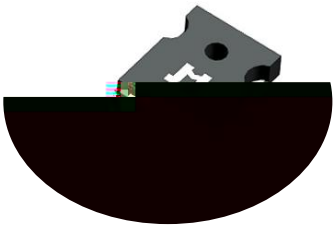
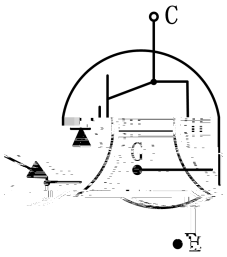
- V_{CE} =650V
- I_C=50A@ T_C=100
- $V_{CE(sat)}$=1.9V

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

A d c f a c ed a d b ec e a d c a e .

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	W

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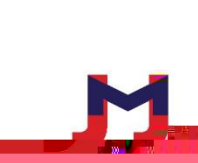
$_{CES}$	Collector-emitter breakdown voltage	$_{GE}$=0V, I_C=250μA	650	-	-	V
$_{CES}$	Collector-emitter leakage current	$_{CE}$=650V, $_{GE}$=0V	-	-	50	μA
$_{GES}$	Gate leakage current, forward	$_{GE}$=20V, $_{CE}$=0V	-	-	100	nA
	Gate leakage current, reverse	$_{GE}$=-20V, $_{CE}$=0V	-	-	-100	nA
$_{GE(th)}$	Gate-emitter threshold voltage					

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

t_n

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

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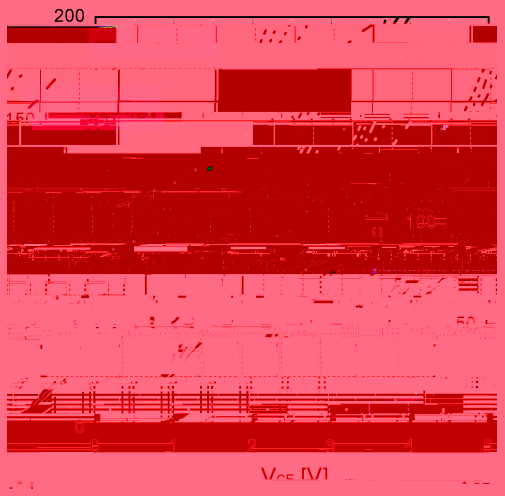


Fig 1. Typical output characteristic ($_{vj}$=25)

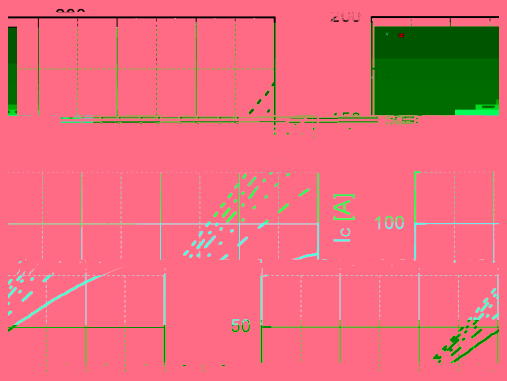


Fig 2. Typical output characteristic($_{vj}$=175)

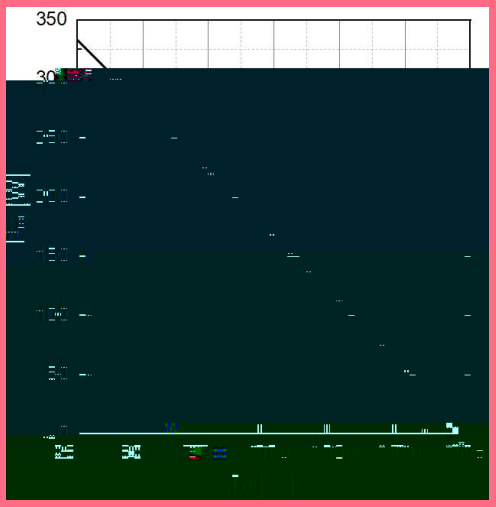


Fig 3. Power dissipation as a function of

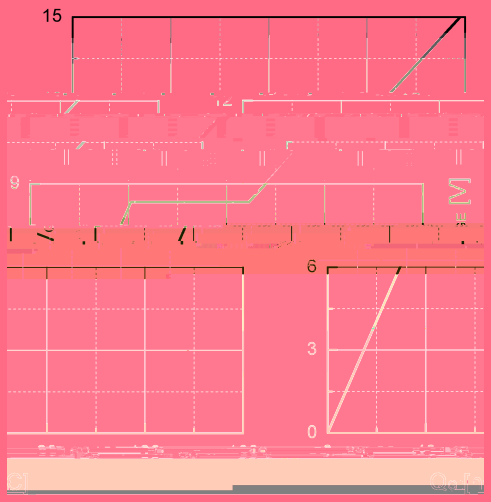


Fig 4. Typical Gate charge

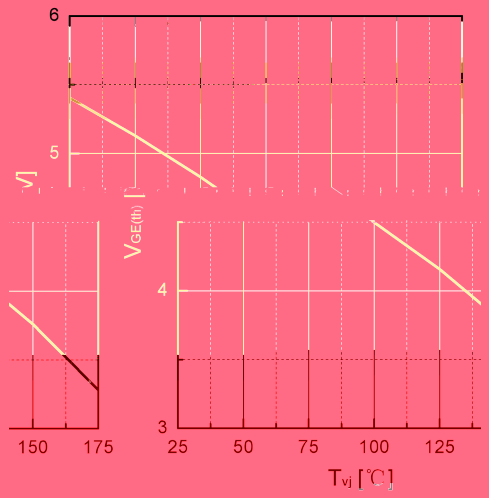


Fig 5. Typical $_{GE(th)}$ as a function of $_{vj}$ ($_{C}$=1mA)

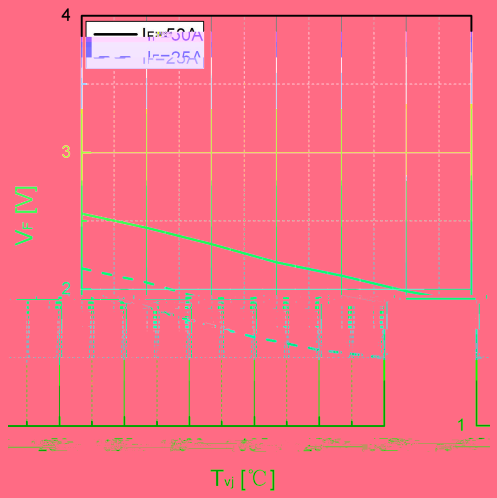


Fig 6. Typical $_{F}$ as a function of $_{vj}$

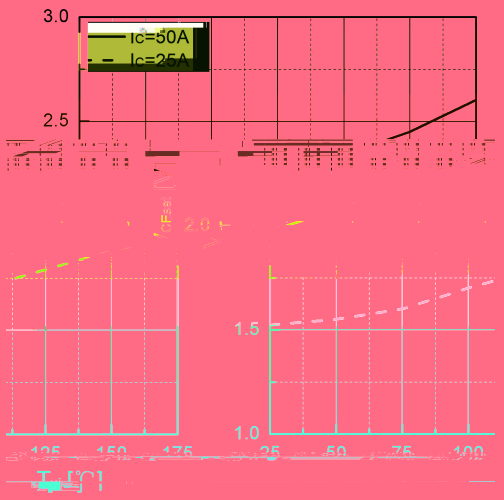


Fig 7. Typical $_{CEsat}$ as a function of $_{vj}$

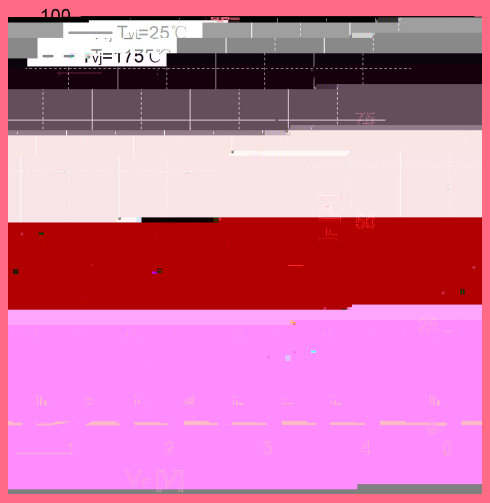


Fig 8. Typical $_{F}$ as a function of $_{F}$

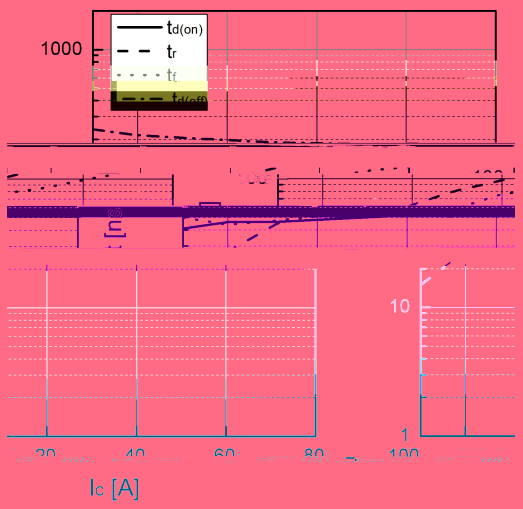


Fig 9. Typical switching time as a function of $_{C}$

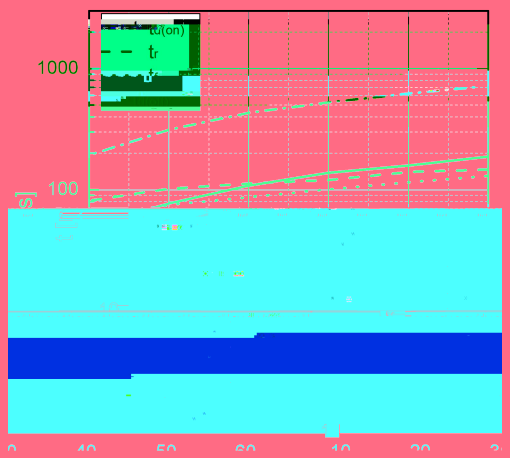


Fig 10. Typical switching times as a function of $_{G}$

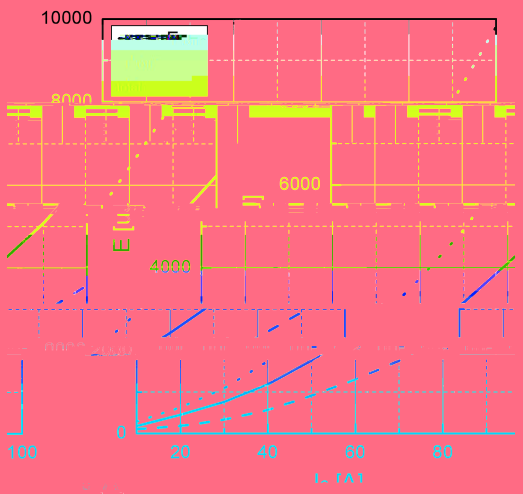


Fig 11. Typical switching energy losses as a function of $_{C}$

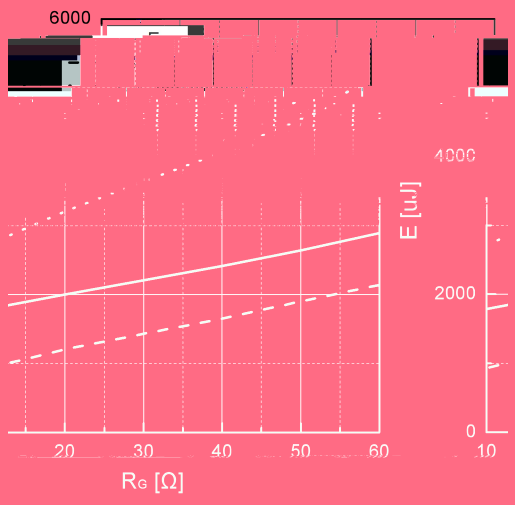


Fig 12. Typical switching energy losses as a function of $_{G}$

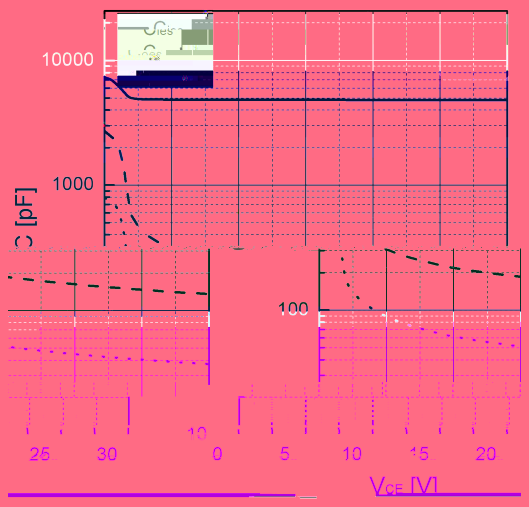


Fig 13. Typical capacitance as a function of $_{CE}$ (f=1Mhz, $_{GE}$=0V)

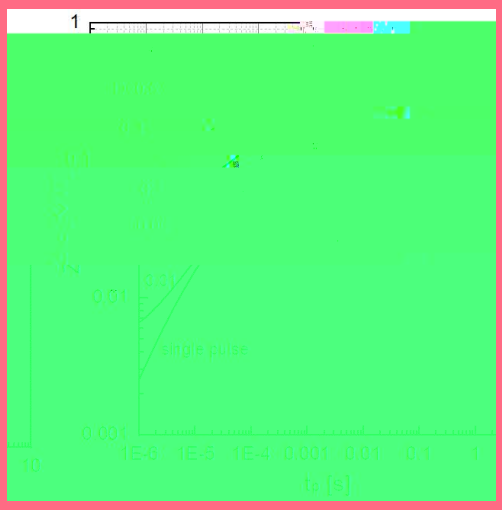


Fig 14. Transient thermal impedance of IGBT

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
M	2.80	3.00	3.20	0.110	0.118	0.126
N	2.90	2		2	2	2

A d c f a c edad bec e a d ca e .

Date	Revision	Changes
2023-12-27	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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