

650V 50A Trench and Field Stop IGBT

JJT50N65UK

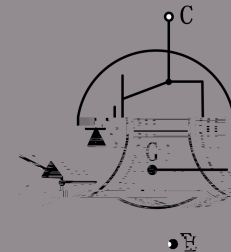
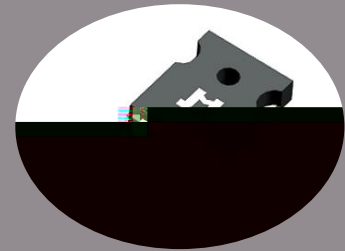
- $V_{CE} = 650V$
- $I_C = 50A @ V_{CE} = 100V$
- $V_{CE(sat)} = 1.7V$

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

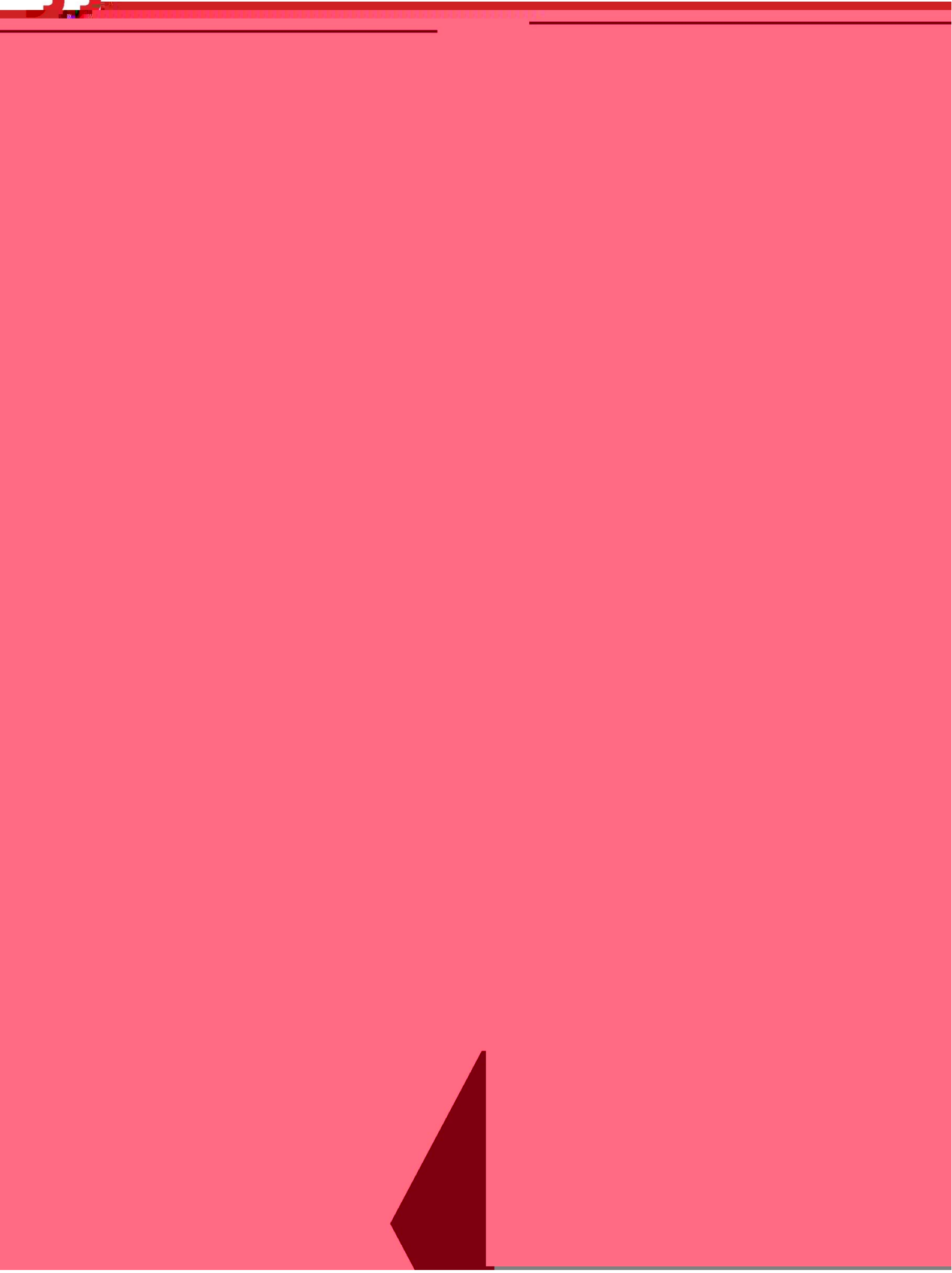
- High efficiency for inverters.
- High ruggedness performance.
- RoHS compliant.

- PFC applications
- Welding machines

TO-247i



Type	Marking	Package	Packaging Method
JJT50N65UK	T0	b ǎ	T ðve



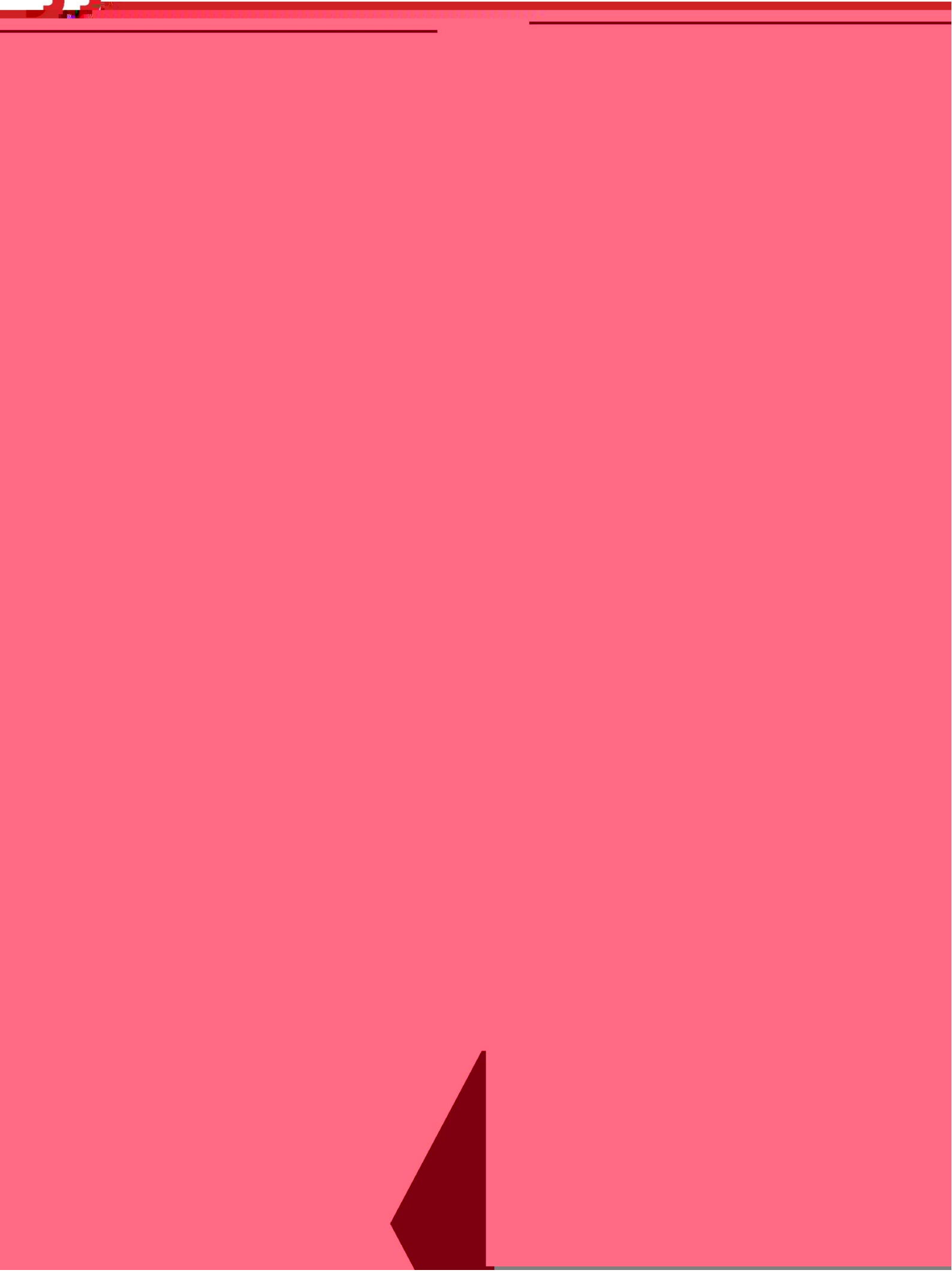


V_{CES}	Collector-emitter breakdown voltage	$V_{GE}=0V, I_C=250\mu A$	650	-	-	V
I_{CES}	Collector-emitter leakage current	$V_{CE}=650V, V_{GE}=0V$	-	-	50	μA
	Gate leakage current, forward	$V_{GE}=20V, V_{CE}=0V$	-	-	100	nA
I_{GES}	Gate leakage current, reverse	$V_{GE}=-20V, V_{CE}=0V$	-	-	-100	nA
$V_{GE(th)}$	Gate-emitter threshold voltage	$V_{GE}=V_{CE}, I_C=1mA$	5.1	5.4		HD



d(on)	Turn-on delay time		-	44	-	ns
r	Rise time		-	100	-	ns
d(off)	Turn-off delay time	CC=400V GE=0/15V	-	166	-	ns
f	Fall time	C=50A G=10	-	75	-	ns
on	Turn-on energy	Inductive load	-	1.7	-	mJ
off	Turn-off energy		-	0.9	-	mJ
ts	Total switching energy		-	2.6	-	mJ
d(on)	Turn-on delay time					

CC=400V
GE=0/15V
C=50A



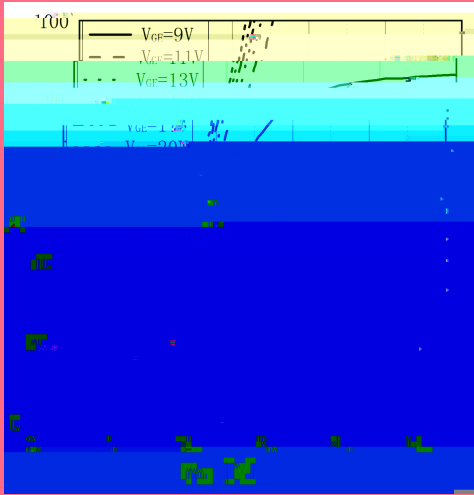


Fig 1. Typical output characteristic ($v_j=25$)

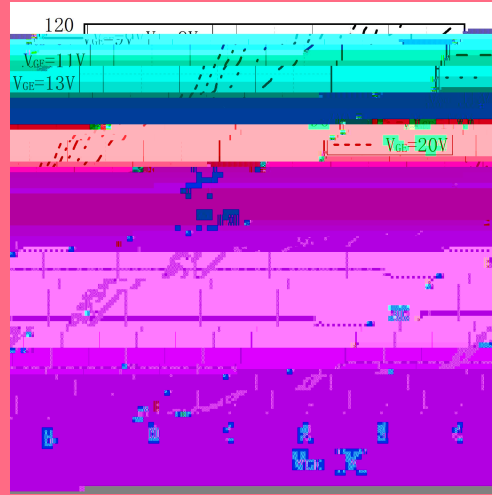


Fig 2. Typical output characteristic($v_j=175$)

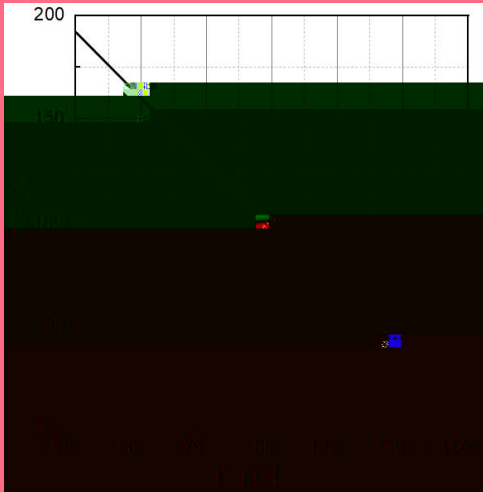


Fig 3. Power dissipation as a function of

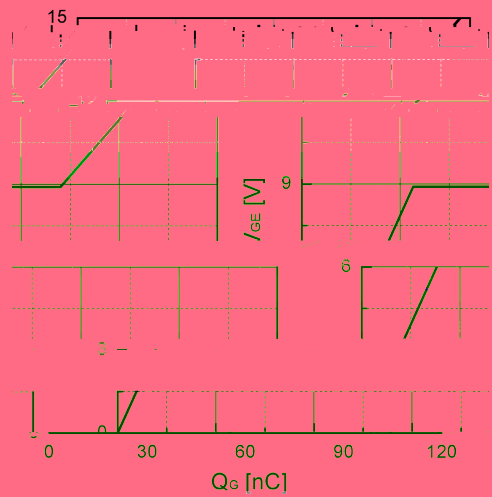


Fig 4. Typical Gate charge

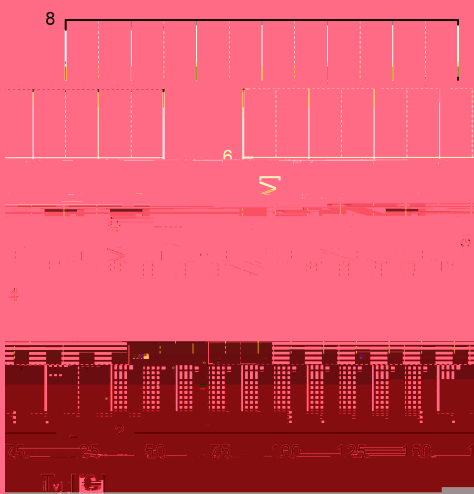


Fig 5. Typical $G_{E(th)}$ as a function of v_j ($c=1mA$)

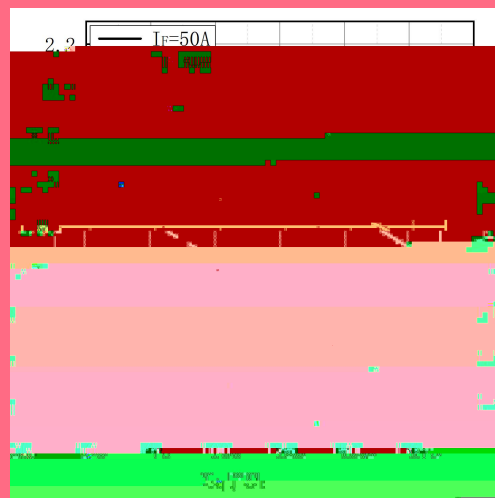


Fig 6. Typical F as function of v_j

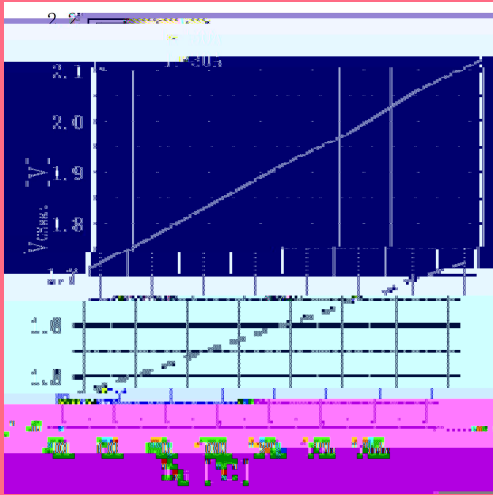


Fig 7. Typical V_{CEsat} as a function of v_j

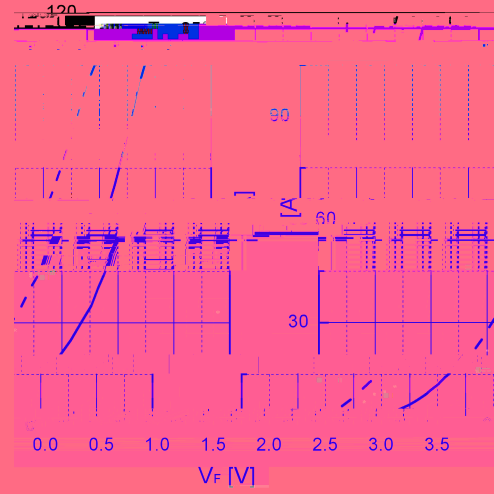


Fig 8. Typical F as a function of V_F

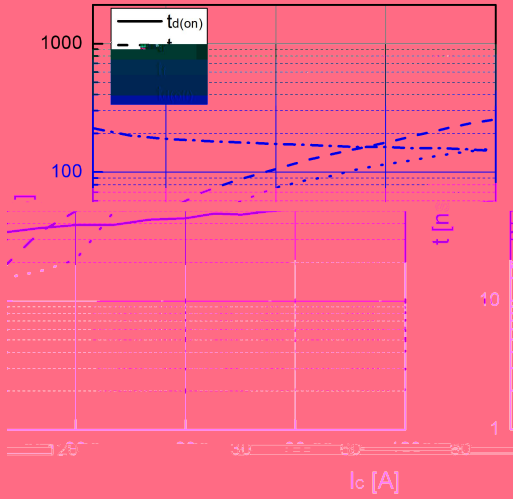
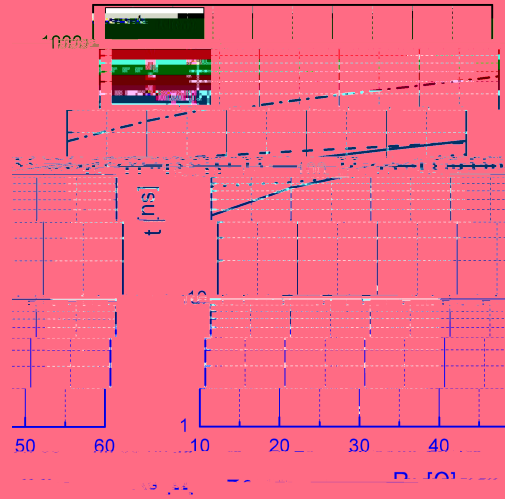


Fig 9. Typical switching time as a





Dimensions

Ref.	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	4.42	0.170	0.172	0.174
C	19.01	19.11	19.21	0.748	0.752	0.756
D	2.07	2.10	2.13	0.081	0.0	.



Date	Revision	Changes
2025-05-17	Rev A.1.2	Update

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