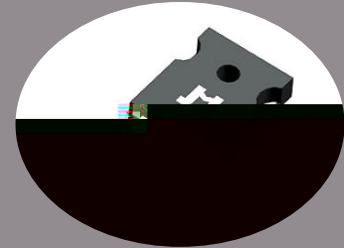
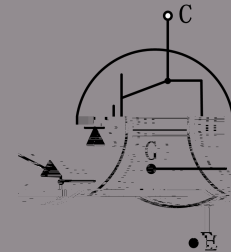


TO-247

- $V_{CE} = 650V$
- $I_C = 20A @ V_{CE} = 100V$
- $V_{CE(sat)} = 1.6V$



- High ruggedness performance.
- 10 μs short circuit capability.
- Positive $V_{CE(sat)}$ temperature coefficient.
- High efficiency for motor control.
- Excellent current sharing in parallel operation.
- RoHS compliant.



- Home appliances
- Motor drives
- General inverter

Type	Marking	Package	Packaging method
JJT20N65SE	T2065SE	TO-247	Tube



			<i>i t</i>
CES	Collector-emitter voltage	650	V
GES	Gate-emitter voltage	±20	V
C	Continuous collector current ($c=25$)	40	A
	Continuous collector current ($c=100$)	20	A
CM	Pulsed collector current, p limited by v_{jmax}	80	A
F	Diode continuous forward current ($c=100$)	20	A
FM	Diode maximum current, p limited by v_{jmax}	80	A
sc	Short circuit withstand time	10	μs
tot	Power dissipation ($c=25$)	187	W
	Power dissipation ($c=100$)	93	W
vj	Operating junction temperature range	-40 to +175	
stg	Storage temperature range	-55 to +150	

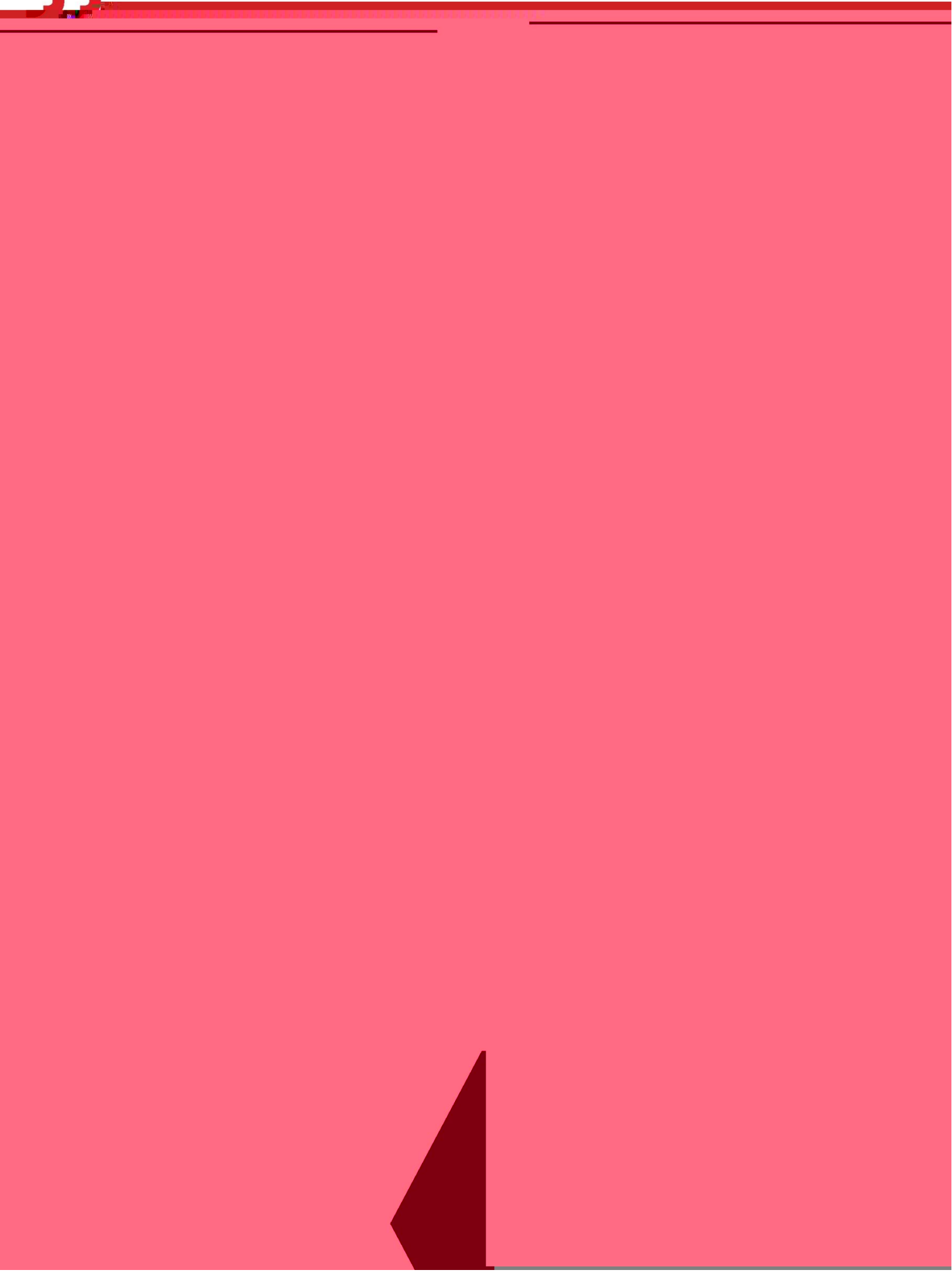


V_{CES} Collector-emitter breakdown voltage

$V_{GE}=0V, I_C=250\mu A$

650





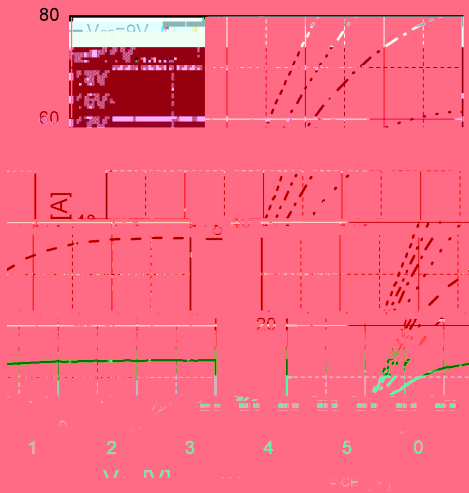


Fig 1. Typical output characteristic ($v_j=25$)

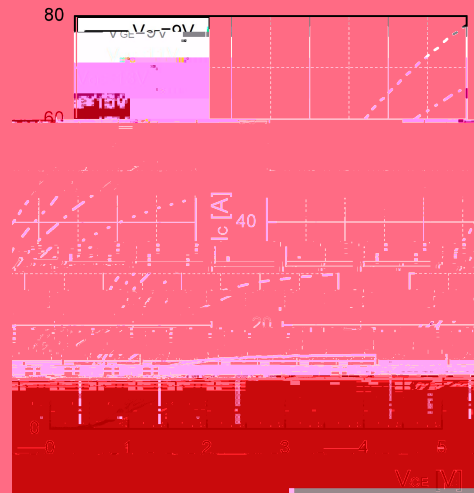


Fig 2. Typical output characteristic($v_j=175$)

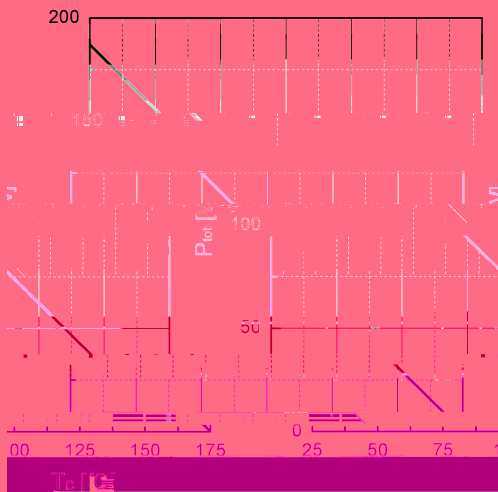


Fig 3. Power dissipation as a function of

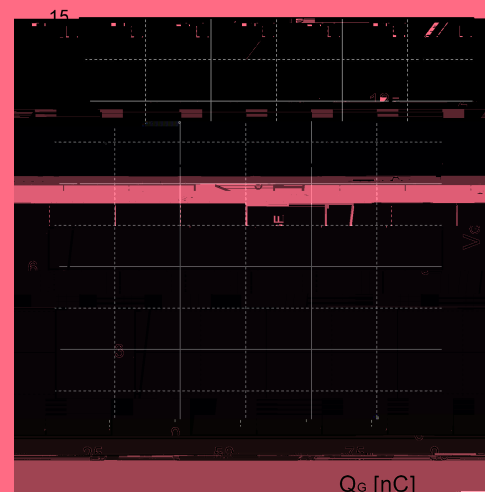


Fig 4. Typical Gate charge

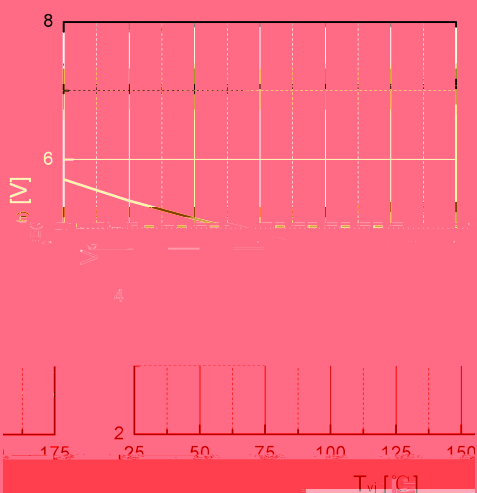


Fig 5. Typical $\theta_{GE(th)}$ as a function of v_j
($c=1mA$)

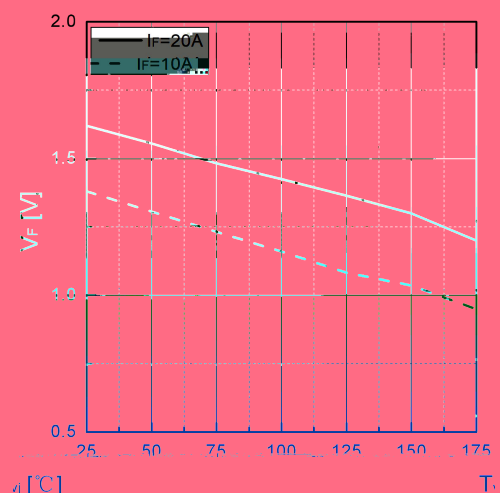


Fig 6. Typical V_F as a function of v_j

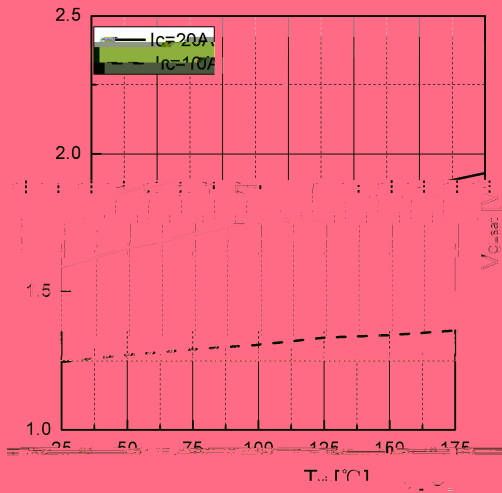


Fig 7. Typical V_{CEsat} as a function of v_j

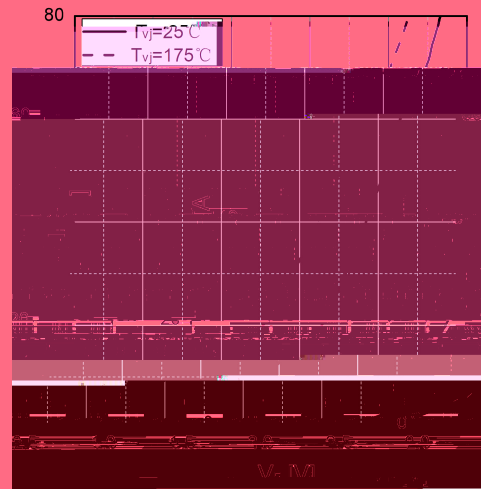


Fig 8. Typical F as a function of F

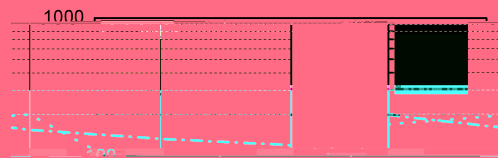


Fig 9. Typical switching time as a function of I_c

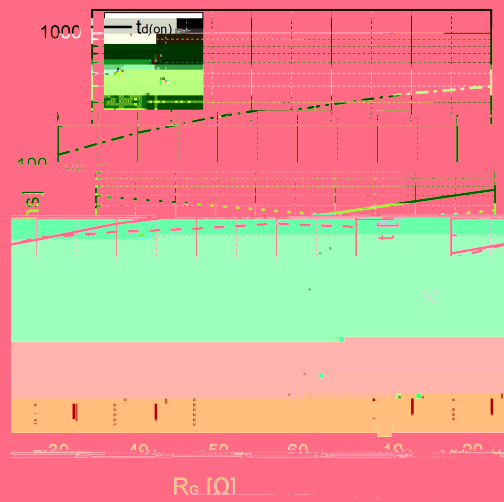


Fig 10. Typical switching times as a function of I_g

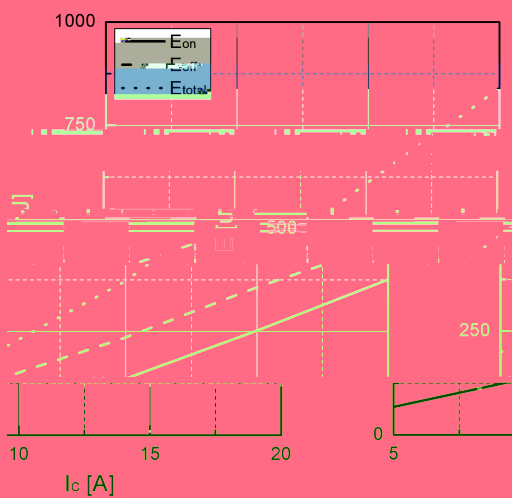


Fig 11. Typical switching energy losses as a function of I_c

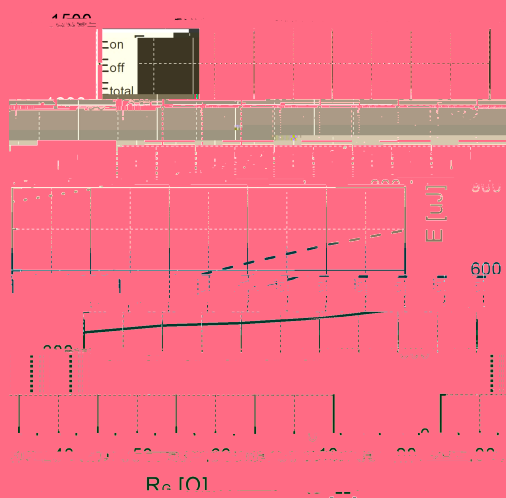


Fig 12. Typical switching energy losses as a function of I_g

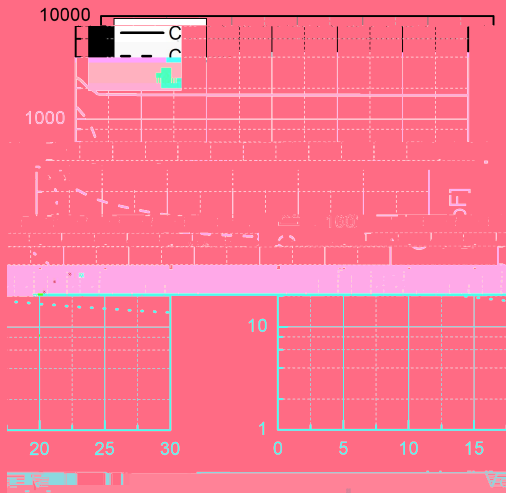


Fig 13. Typical capacitance as a function of C_E
 ($f=1\text{Mhz}$, $V_{GE}=0\text{V}$)



Date	Revision	Changes
2023-12-05	Rev 1.0	Release of the datasheet.
2024-05-20	Rev 1.1	Update
2025-03-06	Rev 1.2	Character update

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