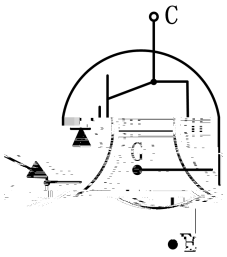
JJMIC NICS

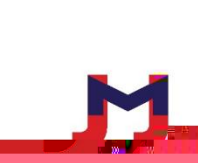
1200 40A F IGB

JJ 40N120 E

TO-247




A dc f a c edad bec e a d ca RE 1.3 J N 2026



| | | | | | | |
|---|---|---|---|---|---|---|
| $V_{CES}$ | Collector-emitter breakdown voltage | $V_{GE}$=0V, $I_C$=250μA | 1200 | - | - | V |

$V_{CES}$ Collect

o



| | | | | | | |
|---|---|---|---|---|---|---|
| d(on) | Turn-on delay time | | - | 80 | - | ns |
| r | Rise time | | - | 77 | - | ns |
| d(off) | Turn-off delay time | CC=600V<br>GE=0/15V<br>C=40A<br>G=10<br>Inductive load | - | 308 | - | ns |
| f | Fall time | | - | 67 | - | ns |
| on | Turn-on energy | | - | 2.1 | - | mJ |
| off | Turn-off energy | | - | 1.4 | - | mJ |
| ts | Total switching energy | | - | 3.5 | - | mJ |
| d(on) | Turn-on delay time | | - | 70 | - | ns |
| r | Rise time | | - | 75 | - | ns |
| d(off) | Turn-off | CC=600V<br>GE=0/15V<br>C=40A<br>G=10<br>Inductive load<br>vj=175 | | | | s |

3/4V1
A f a c e d/bec e a d c a e .

( $_{vj}$=25 unless otherwise specified)

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| $_{F}$ | Diode forward voltage | $_{F}$=40A | - | 3.1 | - | V |
| | | $_{F}$=40A $_{vj}$=175 | - | 2.3 | - | V |
| $_{rr}$ | Diode reverse recovery time | $_{R}$=600V<br>$_{F}$=40A<br>d $_{F}$/d =-750A/μs | - | 170 | - | ns |
| $_{rrm}$ | Diode peak reverse recovery current | | - | 17 | - | A |
| $_{rr}$ | Diode reverse recovery charge | | - | 1100 | - | nC |
| $_{rr}$ | Diode reverse recovery time | $_{R}$=600V<br>$_{F}$=40A<br>d $_{F}$/d =-750A/μs<br>$_{vj}$=175 | - | 285 | - | ns |
| $_{rrm}$ | Diode peak reverse recovery current | | - | 28 | - | A |
| $_{rr}$ | Diode reverse recovery charge | | - | 3300 | - | nC |

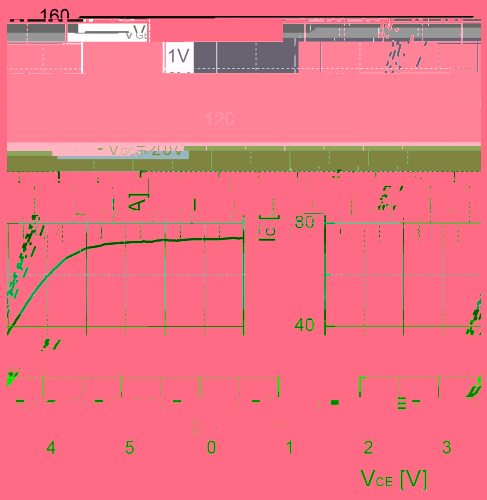



Fig 1. Typical output characteristic ( vj=25 )

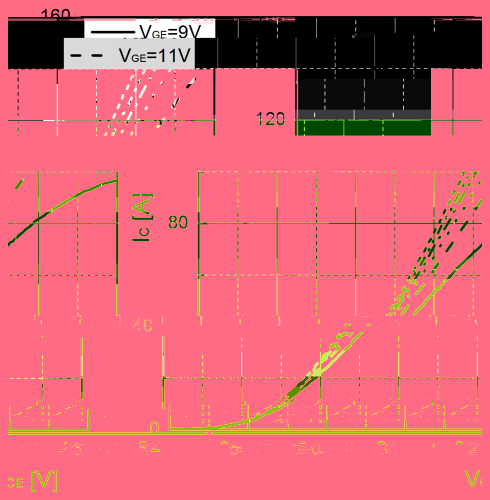



Fig 2. Typical output characteristic( vj=175 )

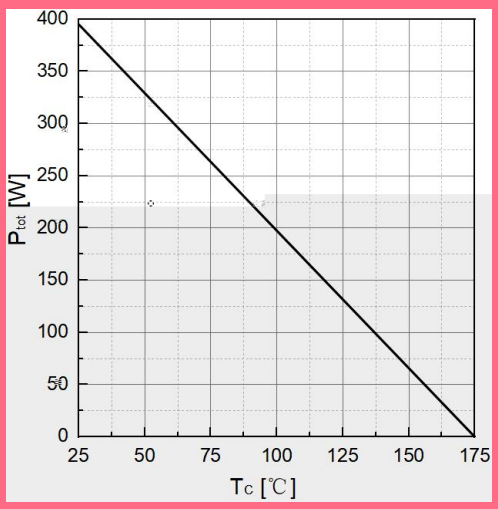



Fig 3. Power dissipation as a function of

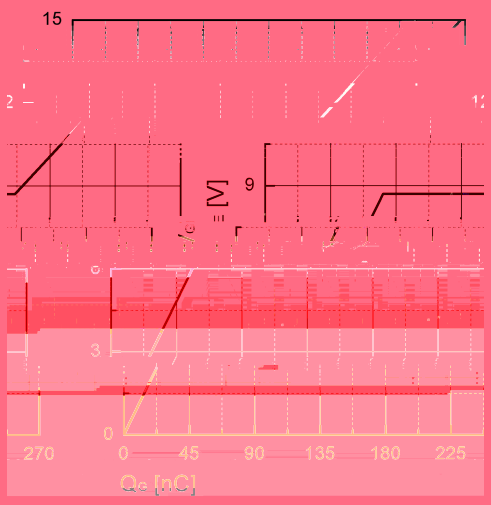



Fig 4. Typical Gate charge

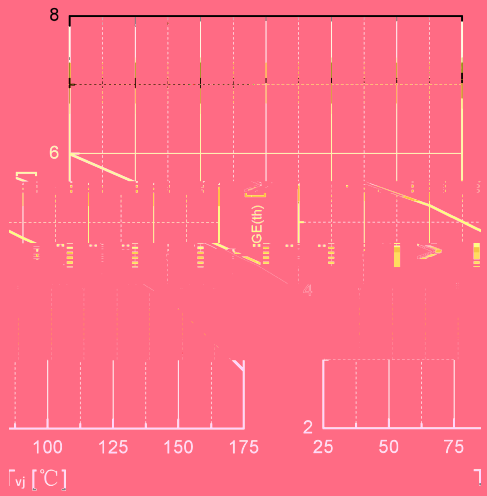



Fig 5. Typical GE(th) as a function of vj ( C=1mA)

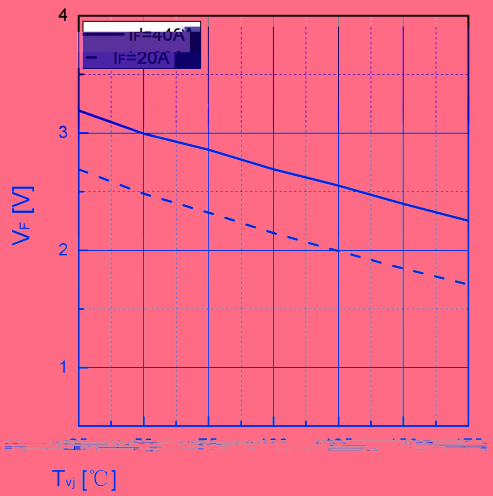



Fig 6. Typical F as function of vj

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

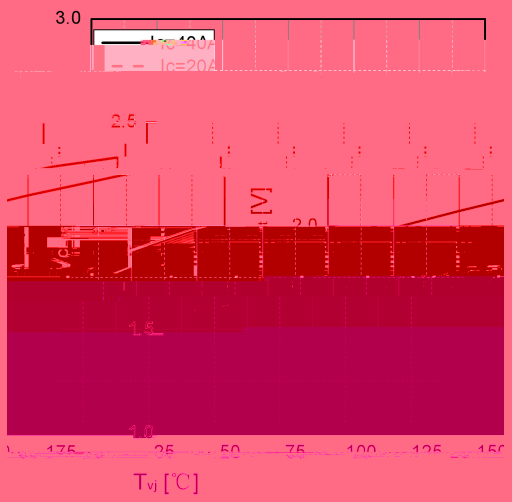



Fig 7. Typical $_{CEsat}$ as a function of $_{vj}$



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

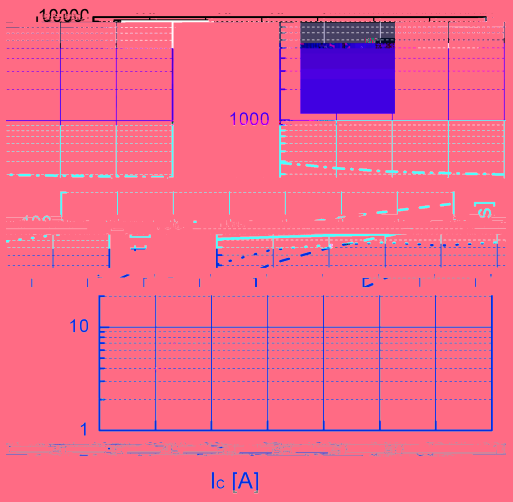



Fig 9. Typical switching time as a function of $_{C}$



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

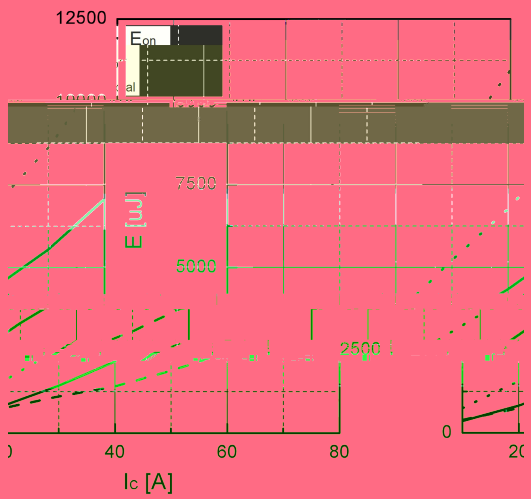



Fig 11. Typical switching energy losses as a function of $_{C}$

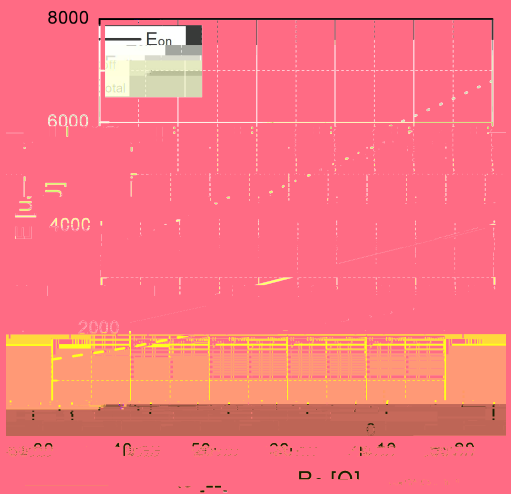



Fig 12. Typical switching energy losses as a function of $_{G}$

A dc f a c edad bec e ad ca e .



A d c f a c ed a d

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 | 0.07 | |
| K | 2.20 | 2.35 | 2.50 | 0.087 | 0.093 | 0.098 |
| L | 0.41 | 0.60 | 0.7 | | 0.024 | 0.031 |
| M | 2.80 | 3.00 | 3.20 | 0.110 | 0.118 | 0.126 |

| Date | Revision | Changes |
|---|---|---|
| 2023-12-12 | Rev. 1.0 | Release of the datasheet. |
| 2024-04-03 | Rev. 1.1 | Update |
| 2024-05-17 | Rev. 1.2 | Update |
| 2026-06-25 | Rev 1.3 | Update thermal |

PLEASE NO Ltd ("JJM") reserves the right to amend, correct, modify

