- V_{CES}=650V
- I_C=46A@ T_C=100℃
- $V_{CE(sat)}$

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CES	Collector-emitter voltage	650	V
GES	Gate-emitter voltage	±20	V
C	Continuous collector current (C=25)	12	A
	Continuous collector current (C=100)	6	A
CM	Pulsed collector current, p limited by vjmax	24	A
F	Diode continuous forward current (C=100)	6	A
FM	Diode maximum current, p limited by vjmax	24	A
sc	Short circuit withstand time	10	µs
tot	Power dissipation (C=25)	115	W
	Power dissipation (C=100)	57	W
vj	Operating junction temperature range	-40 to +175	
stg	Storage temperature range	-55 to +150	

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($_{vj}$=25 unless otherwise

$_{CES}$	Collector-emitter breakdown voltage	$_{GE}$=0V, $_{C}$=250μA	650	-	-	V
$_{CES}$	Collector-emitter leakage current	$_{CE}$=650V, $_{GE}$=0V	-	-	10	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	$_{GE}$=V_{CE}, $_{C}$=1mA	5.7	6.2	6.7	V
$_{CE(sat)}$	Collector-emitter saturation voltage	$_{GE}$=15V, $_{C}$=6A	-	1.7	-	V
		$_{GE}$=15V, $_{C}$=6A, $_{vj}$=175	-	2.2	-	V

$_{ies}$	Input capacitance	$_{CE}$=30V $_{GE}$=0V =1MHz	-	480	-	pF
$_{oes}$	Output capacitance		-	22	-	pF
$_{res}$	Reverse transfer capacitance		-	8	-	pF
$_{g}$	Total gate charge	$_{CC}$=520V $_{GE}$=15V $_{C}$=6A	-	19	-	nC

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Switching characteristics

$t_{d(on)}$	Turn-on delay time	V_{CC}=400V V_{GE}=0/15V I_C=6A R_G=10Ω Inductive load	-	10	-	ns
t_r	Rise time		-	8	-	ns
$t_{d(off)}$	Turn-off delay time		-	79	-	ns
t_f	Fall time		-	56	-	ns
E_{on}	Turn-on energy		-	0.11	-	mJ
E_{off}	Turn-off energy		-	0.10	-	mJ
E_{ts}	Total switching energy		-	0.21	-	mJ
$t_{d(on)}$	Turn-on delay time	V_{CC}=400V V_{GE}=0/15V I_C=6A R_G=10Ω Inductive Load T_{vj}=175	-	11	-	ns
t_r	Rise time		-	10	-	ns
$t_{d(off)}$	Turn-off delay time		-	108	-	ns
t_f	Fall time		-	89	-	ns
E_{on}	Turn-on energy		-	0.16	-	mJ
E_{off}	Turn-off energy		-	0.16	-	mJ
E_{ts}	Total switching energy		-	0.32	-	mJ

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		$_F$=6A	-	1.6	-	V
$_F$	Diode forward voltage	$_F$=6A, $_{vj}$=175	-	1.4	-	V

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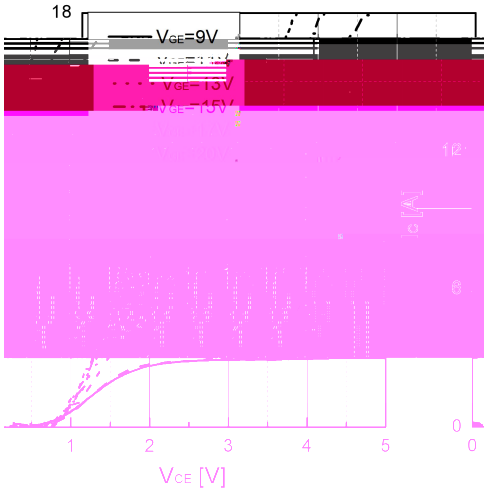

Fig 1. Typical output characteristic ($_{vj}$=25)

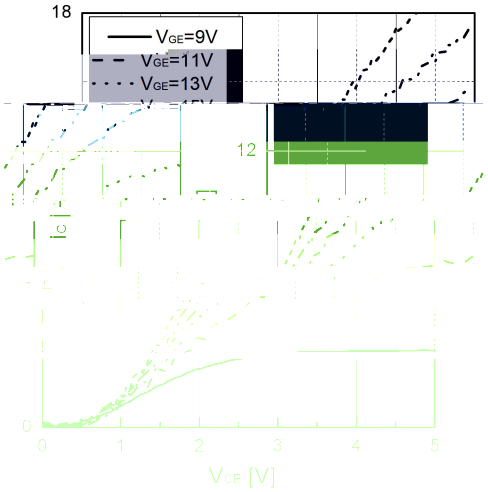

Fig 2. Typical output characteristic($_{vj}$=175)

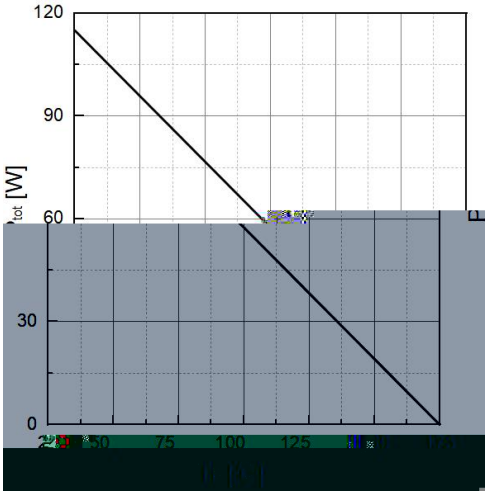

Fig 3.Power dissipation as a function of

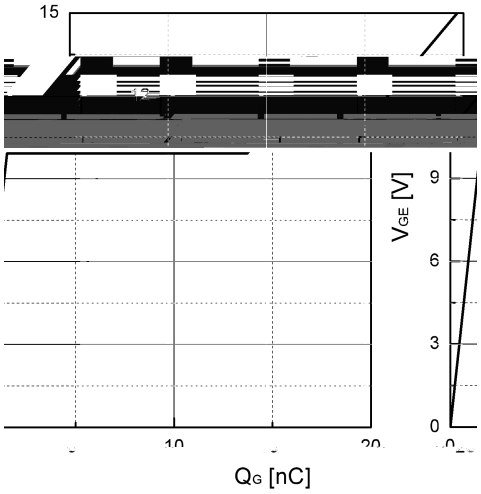

Fig 4. Typical Gate charge

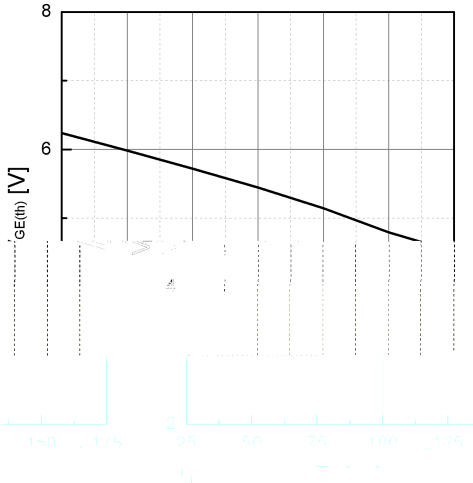

Fig 5. Typical $_{GE(th)}$ as a function of $_{vj}$ ($_{C}$=1mA)

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

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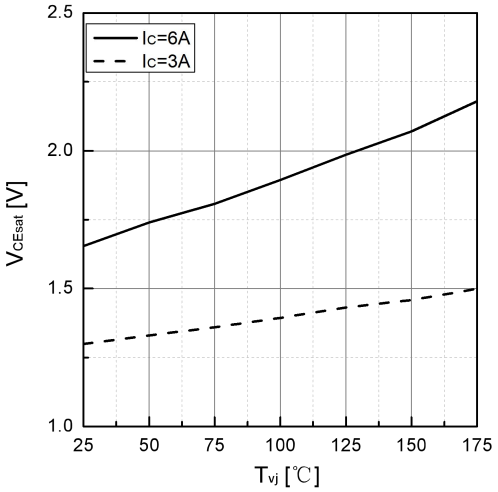

Fig 7. Typical $_{CEsat}$ as a function of $_{vj}$

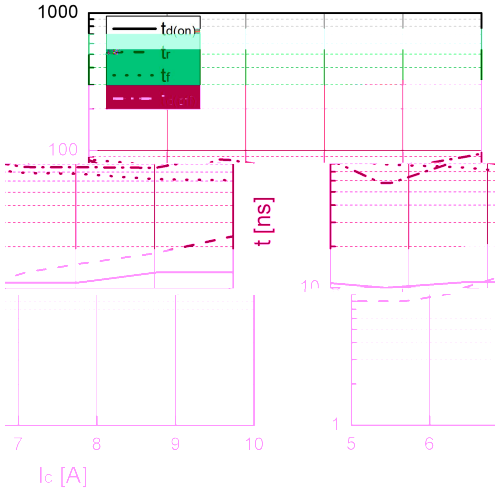

Fig 8. Typical switching time as a function of $_{C}$

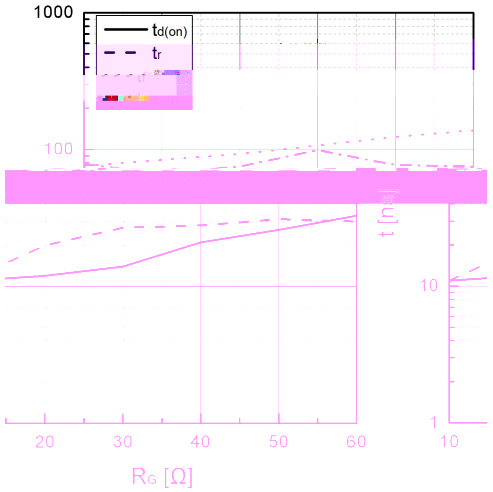

Fig 9. Typical switching times as a function of $_{G}$

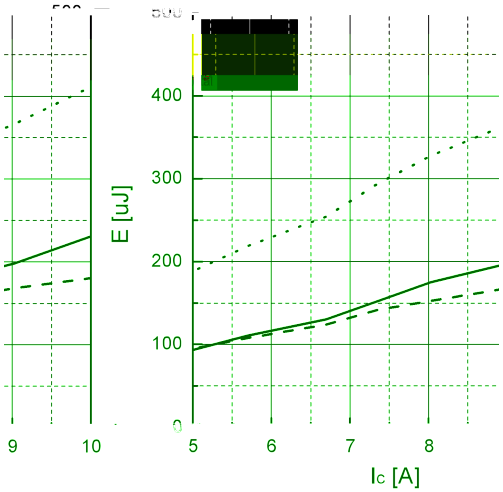

Fig 10. Typical switching energy losses as a function of $_{C}$

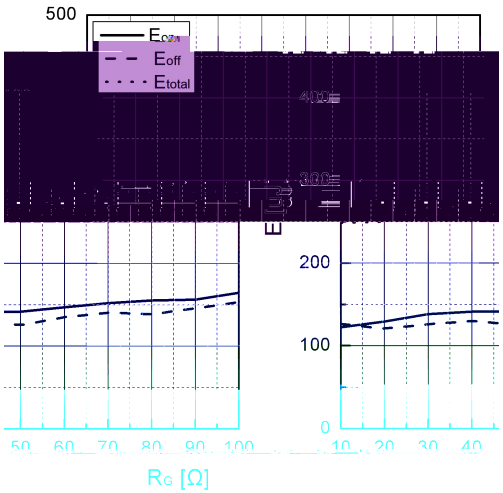

Fig 11. Typical switching energy losses as a function of $_{G}$

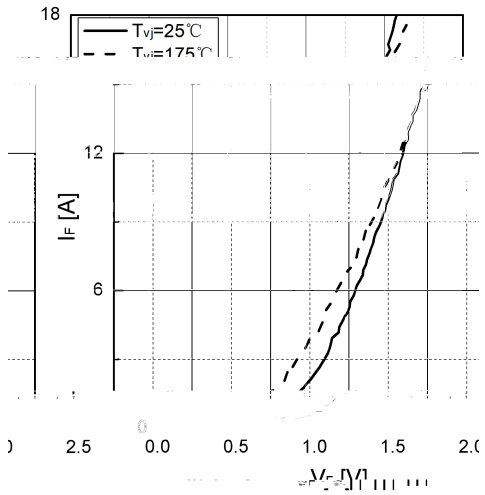

Fig 12. Typical $_{F}$ as a function of $_{F}$

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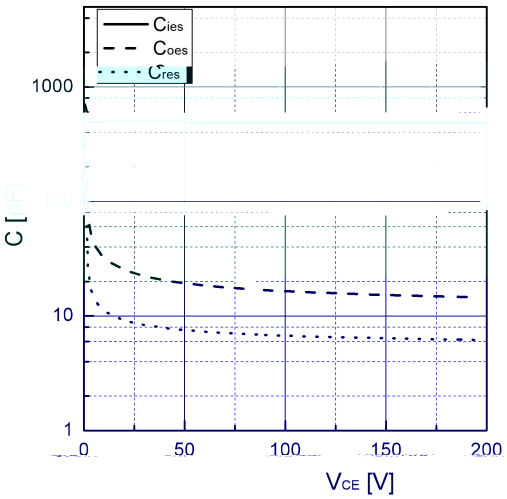

Fig 13. Typical capacitance as a function of $_{CE}$ ($f=1Mhz$, $_{GE}=0V$)

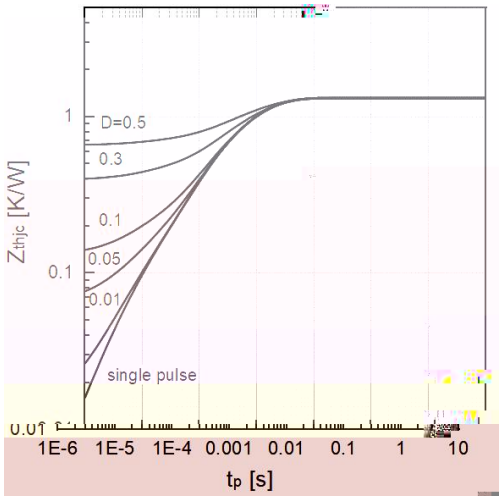

Fig 14. Transient thermal impedance of IGBT

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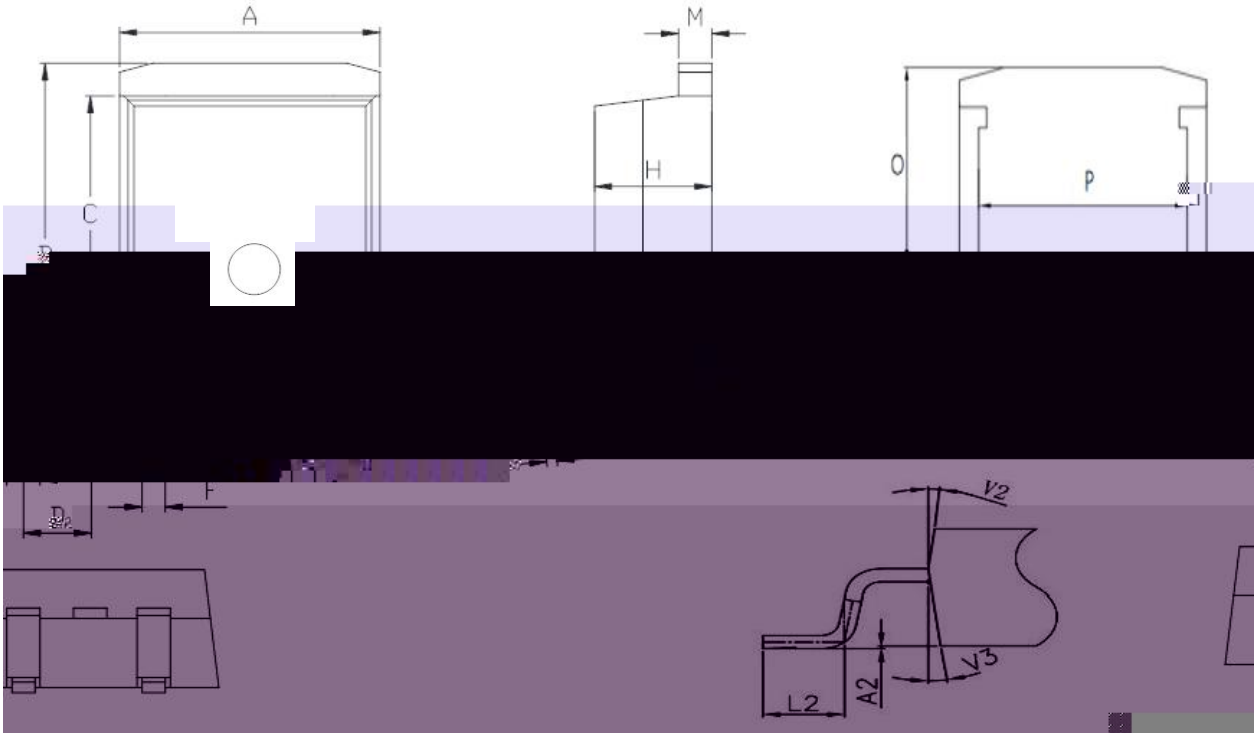

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90	-	10.20	0.390	-	0.402
B	14.70	-	15.80	0.579	-	0.622
C	8.8	-	9.4	0.346	-	0.370
D	-	2.54	-	-	0.100	-
E	1.37	-	1.57	0.054	-	0.062
F	0.75	-	0.85	0.029	-	0.033
G	-	-	1.75	-	-	0.069
H	4.30	-	4.70	0.169	-	0.185
J	2.30	-	2.70	0.091	-	0.106
K	0.38	-	0.55	0.015	-	0.022
L	0	0.15	0.25	0	0.006	0.010
M	1.25	-	1.35	0.049	-	0.053
O	7.4	7.65	7.9	0.291	0.301	0.311
P	8.3	8.6	8.9	0.327	0.339	0.350
L2	2.20	2.35	2.50	0.087	0.093	0.098

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Date	Revision	Changes
2024-06-25	Rev 1.0	Release of the datasheet
2025-02-06	Rev 1.1	Update
2025-04-08	Rev 1.2	Character Update
2025-12-23	Rev 1.3	Add marking specification
2026-03-12	Rev 1.4	Update POD
2026-06-23	Rev 1.5	Update thermal

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