

UH..H

- $V_{CE} = 650V$
- $I_C = 6A @ I_C = 100$
- $V_{CE(sat)} =$



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

th(j-c) The



($v_j=25$ unless otherwise

C_{ES}	Collector-emitter breakdown voltage	$V_{GE}=0V, I_C=250\mu A$	650	-	-	V
C_{ES}	Collector-emitter leakage current	$V_{CE}=650V, V_{GE}=0V$	-	-	10	μA
G_{ES}	Gate leakage current, forward	$V_{GE}=20V, V_{CE}=0V$	-	-	100	nA
	Gate leakage current, reverse	$V_{GE}=-20V, V_{CE}=0V$	-	-	-100	nA
$V_{GE(th)}$	Gate-emitter threshold voltage	$V_{GE}=V_{CE}, I_C=1mA$	5.7	6.2	6.7	V
$V_{CE(sat)}$	Collector-emitter saturation voltage	$V_{GE}=15V, I_C=6A$	-	1.7	-	V
		$V_{GE}=15V, I_C=6A, v_j=175$	-	2.2	-	V

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



Switching characteristics

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



F	Diode forward voltage	$I_F=6A$	-	1.6	-	V
		$I_F=6A, \quad t_{vj}=175$	-	1.4	-	V
r						

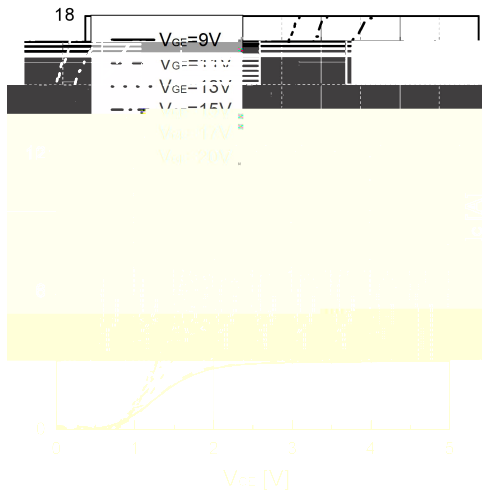


Fig 1. Typical output characteristic ($v_j=25$)

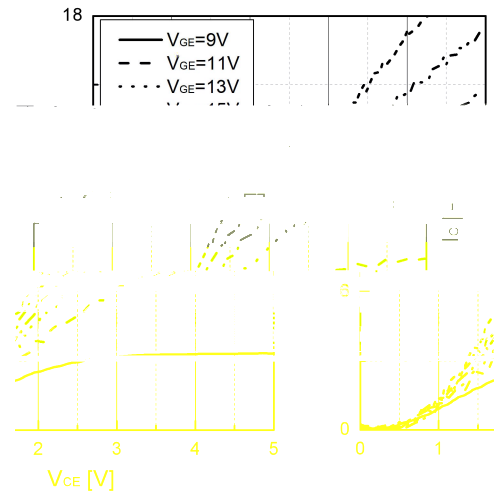


Fig 2. Typical output characteristic($v_j=175$)

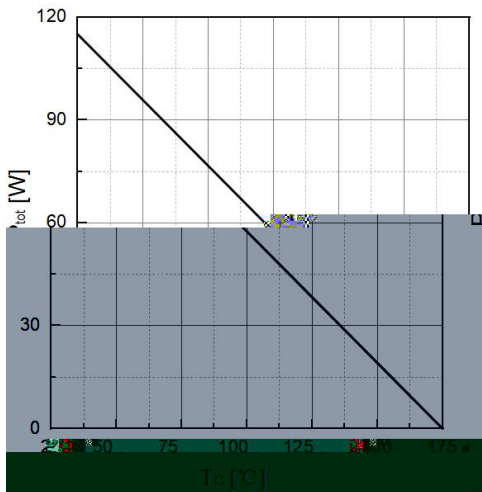


Fig 3. Power dissipation as a function of

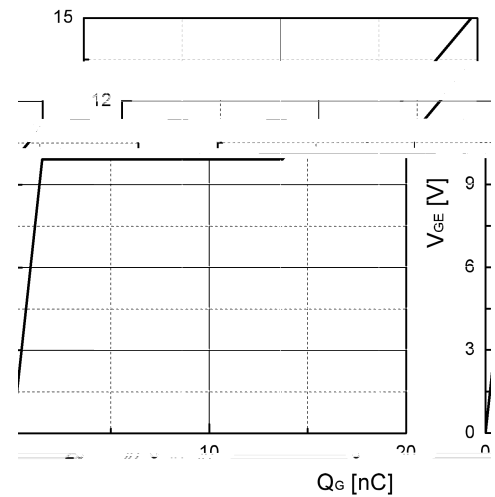


Fig 4. Typical Gate charge

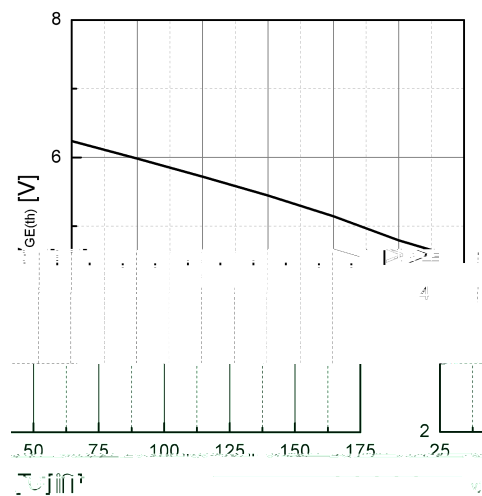


Fig 5. Typical $V_{GE(th)}$ as a function of v_j
($I_C=1mA$)

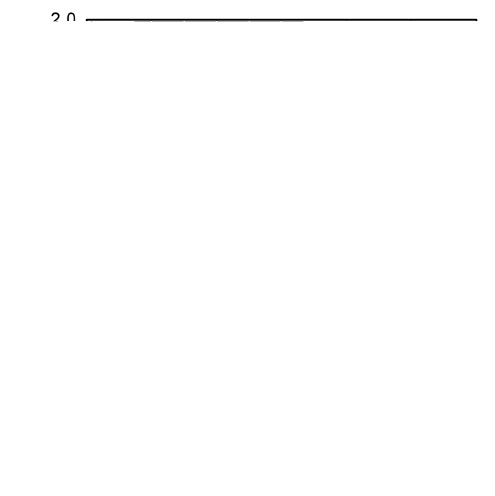


Fig 6. Typical F_T as a function of v_j

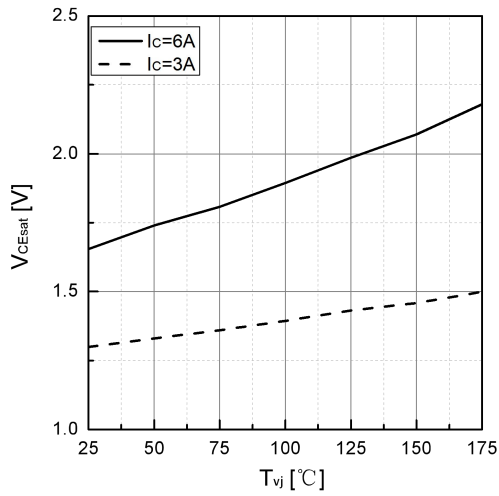


Fig 7. Typical V_{CEsat} as a function of T_{vj}

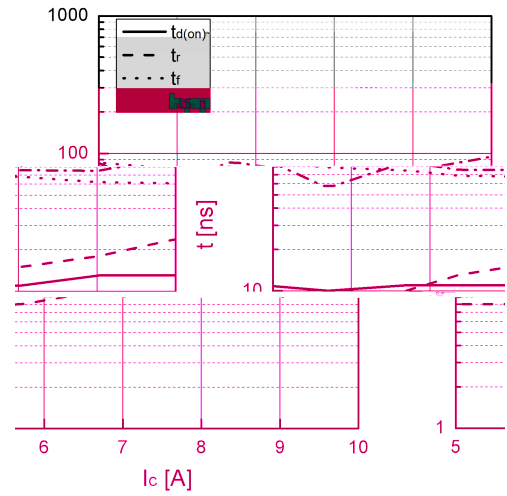


Fig 8. Typical switching time as a function of I_c

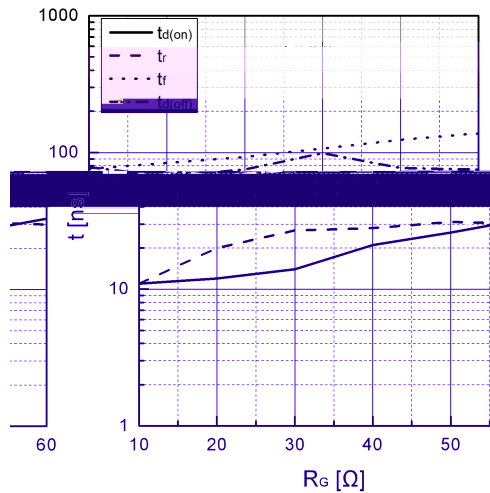


Fig 9. Typical switching times as a function of R_{θ}

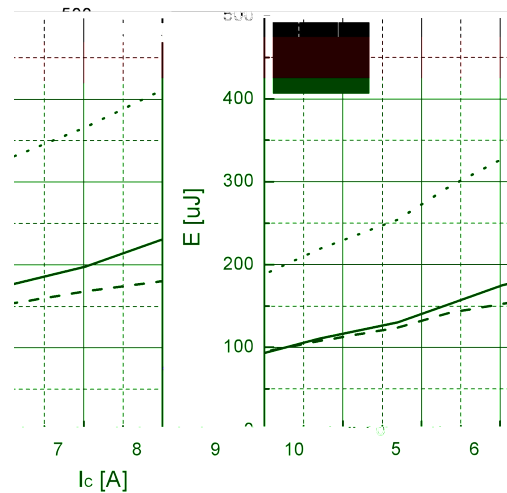


Fig 10. Typical switching energy losses as a function of I_c

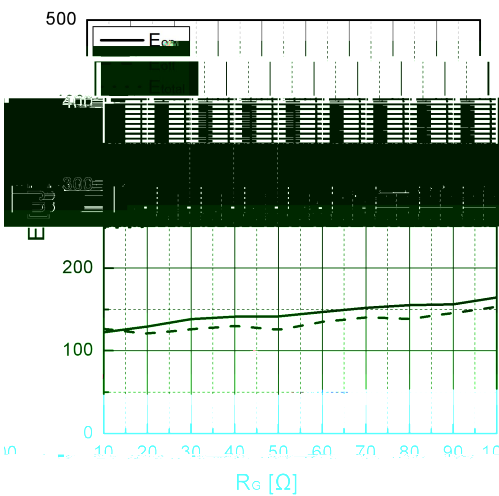


Fig 11. Typical switching energy losses as a function of R_{θ}

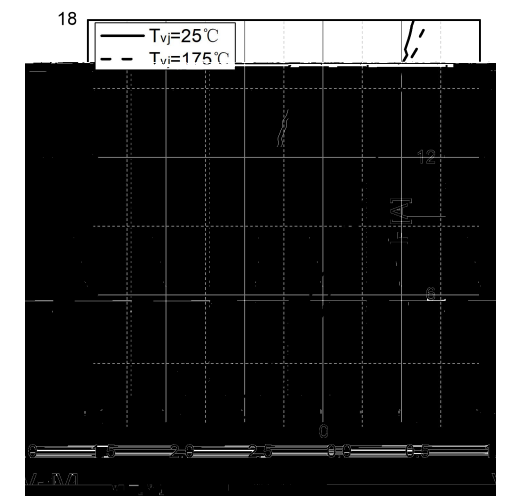


Fig 12. Typical F_T as a function of F_T

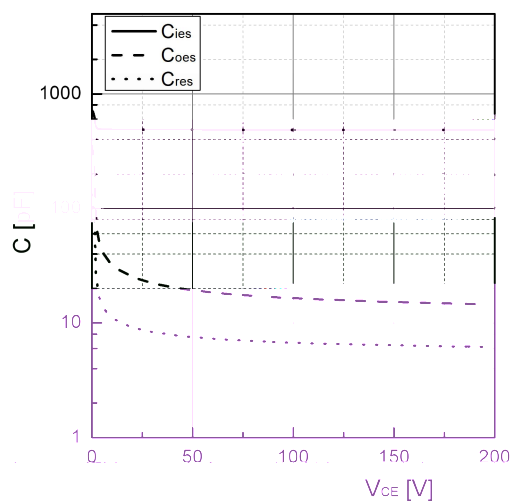


Fig 13. Typical capacitance as a function of V_{CE} ($f=1\text{Mhz}$, $V_{GE}=0\text{V}$)

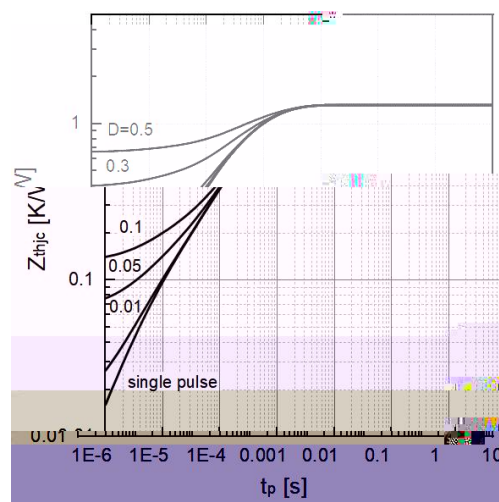
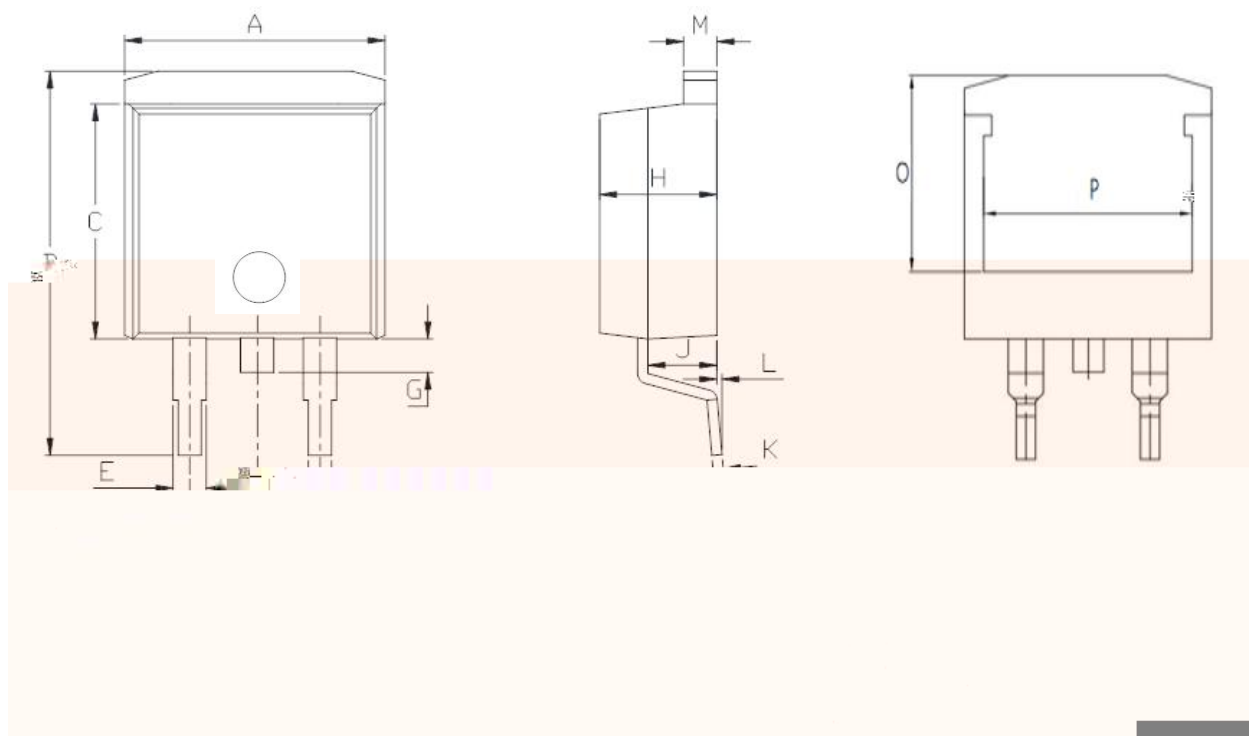


Fig 14. Transient thermal impedance of IGBT

TO-263



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



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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