

650V 75A Trench and Field Stop IGBT

JJT75N65HCN



- $V_{CE} = 650V$
- $I_C = 75A @ V_{CE} = 1.6V$
- $t_{CE(sat)} = 1.6\mu s$



CES	Collector-emitter voltage	650	V
GE			



($v_j=25$ unless otherwise specified)

Static characteristics

CES	Collector-emitter breakdown voltage	$V_{GE}=0V, I_C=250\mu A$	650	-	-	V
CES	Collector-emitter leakage current	$V_{CE}=650V, V_{GE}=0V$	-	-	50	μA
GES	Gate leakage current, forward	$V_{GE}=20V, V_{CE}=0V$	-	-	100	nA
	Gate leakage current, reverse	$V_{GE}=-20V, V_{CE}=0V$	-	-	-100	nA
$GE(th)$	Gate-emitter threshold voltage	$V_{GE}=V_{CE}, I_C=1mA$	5.0	5.4	5.6	V
$CE(sat)$	Collector-emitter saturation voltage	$V_{GE}=15V, I_C=75A$	-	1.8	-	V
		$V_{GE}=15V, I_C=75A, v_j=175$	-	2.3	-	V

Dynamic characteristics

i_{es}	Input capacitance	$V_{CE}=30V$ $V_{GE}=0V$ $f=1MHz$	-	4250	-	pF
o_{es}	Output capacitance		-	205	-	pF
r_{es}	Reverse transfer capacitance		-	31	-	pF
g	Total gate charge	$V_{CC}=520V$ $V_{GE}=15V$ $I_C=75A$	-	130	-	nC



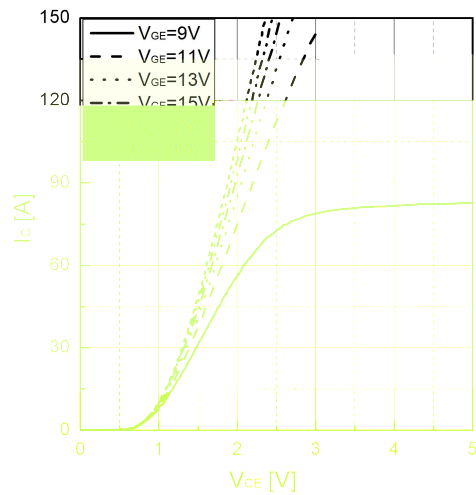


Fig 1. Typical output characteristic ($v_j=25$)

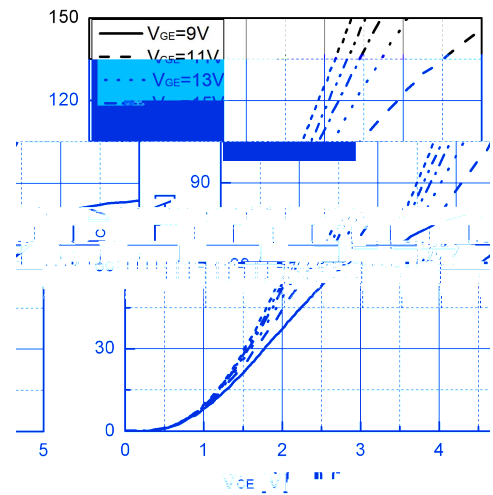


Fig 2. Typical output characteristic($v_j=175$)

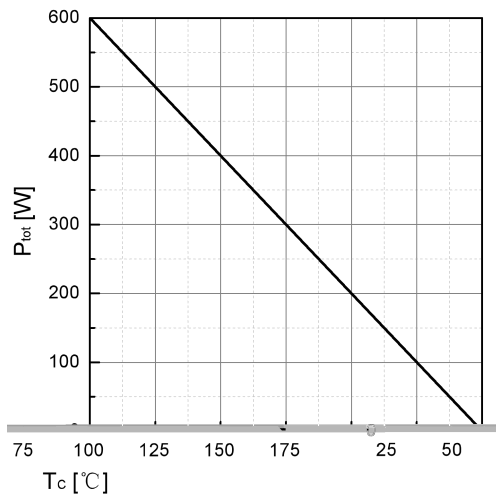


Fig 3. Power dissipation as a function of

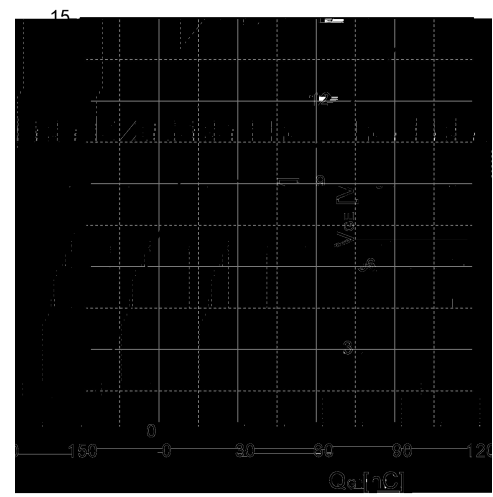


Fig 4. Typical gate charge

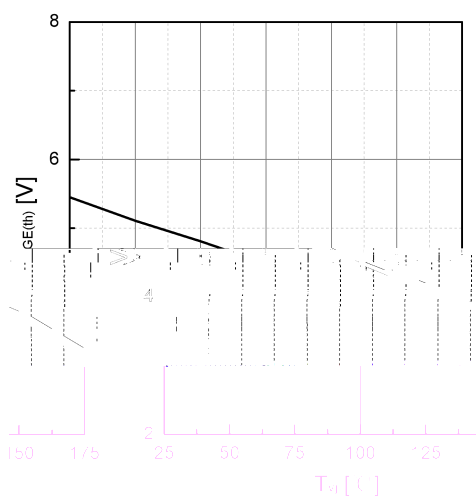


Fig 5. Typical $V_{GE(th)}$ as a function of v_j ($c=1mA$)

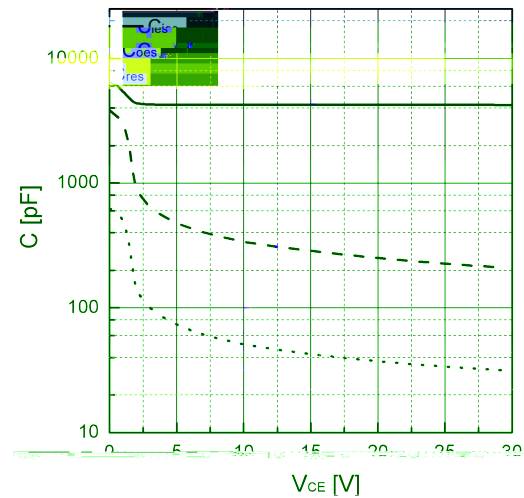


Fig 6. Typical capacitance as a function of V_{CE} ($f=1MHz$, $V_{GE}=0V$)

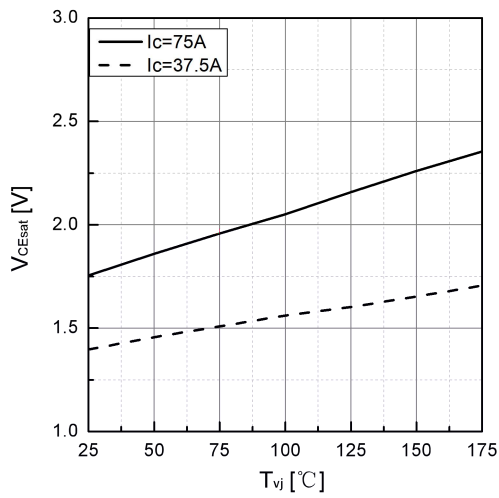


Fig 7. Typical V_{CEsat} as a function of T_{vj}

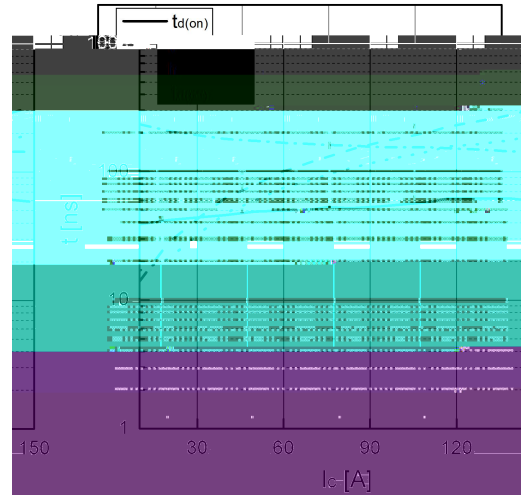


Fig 8. Typical switching time as a function of I_c

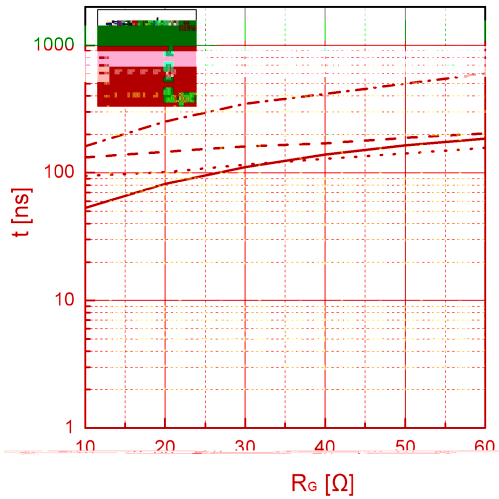


Fig 9. Typical switching times as a function of R_G

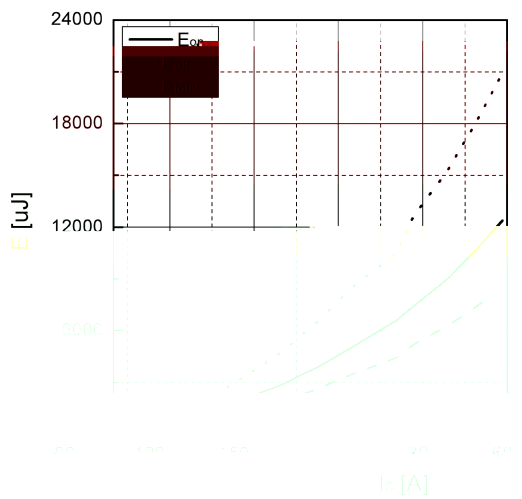


Fig 10. Typical switching energy losses as a function of I_c

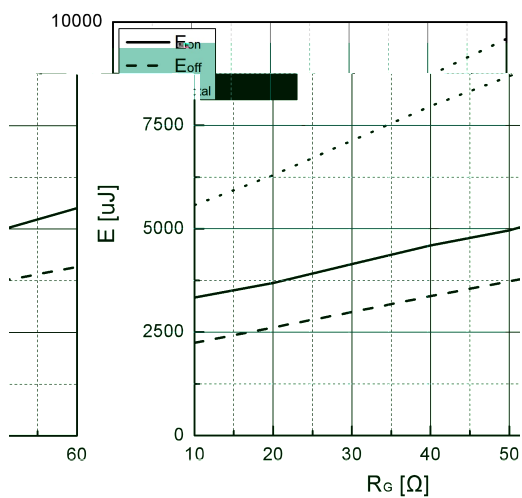


Fig 11. Typical switching energy losses as a function of R_G

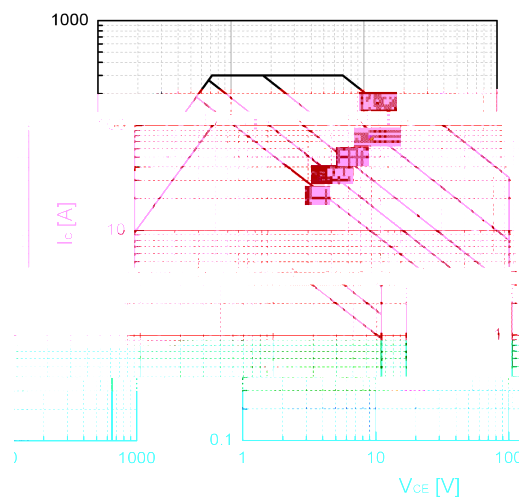


Fig 12. Safe operating area

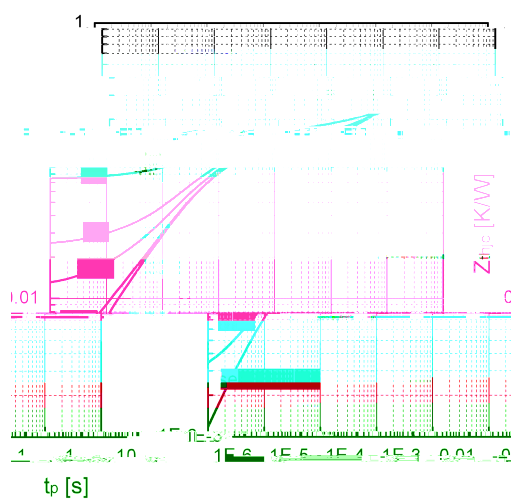
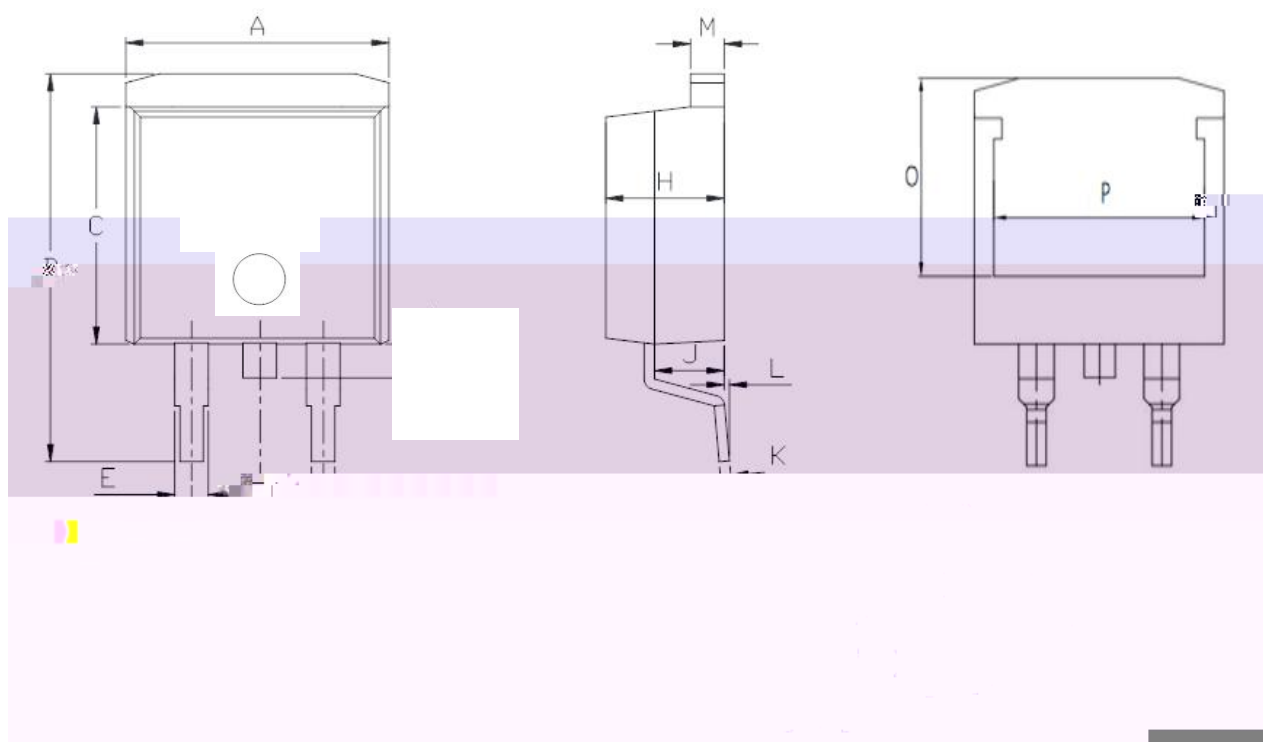


Fig 13. Transient thermal impedance, IGBT

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
2024-03-20	Rev 1.2	Update
2024-08-20	Rev 2.0	Update
2024-09-12	Rev 2.1	Update
2026-03-12	Rev 2.2	Update POD

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