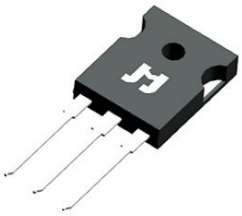
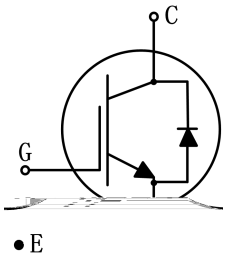
- V_{CE} =650V
- I_C=60A@T_C=100
- $V_{CE(sat)}$=1.9V

TO-247i



- Trench and field-stop technology.
- Easy parallel switching capability.



- High efficiency for inverters.
- High ruggedness performance.
- RoHS compliant.

- PFC applications
- Welding machines

Type	Marking	Package	Packaging Method
JJT60N65UK	T6065UK	TO-247i( )	Tube

V_{CES}	Collector-emitter voltage	650	V
V_{GES}	Gate-emitter voltage	±20	V
I_C	Continuous collector current (T_C=25)	120	A
	Continuous collector current (T_C=100)	60	A
I_{CM}	Pulsed collector current, t_p limited by T_{vjmax}	240	A
I_F	Diode continuous forward current (T_C=100)	60	A
I_{FM}	Diode maximum current, t_p limited by T_{vjmax}	240	A
P_{tot}	Power dissipation (T_C=25)	230	W
	Power dissipation (T_C=100)	115	W
T_{vj}	Operating junction temperature range	-40 to +175	
T_{stg}	Storage temperature range	-55 to +150	

$R_{th(j-c)}$ Thermal resistance, junction to case for IGBT

BV_{CES}	Collector-emitter breakdown voltage	V_{GE}=0V, I_C=250μA	650	-	-	V
I_{CES}	Collector-emitter leakage current	V_{CE}=650V, V_{GE}=0V	-	-	50	μA
I_{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
$V_{GE(th)}$	Gate-emitter threshold voltage	V				

Switching characteristics

$t_{d(on)}$	Turn-on delay time	V_{CC}=400V V_{GE}=0/15V I_C=60A R_G=10Ω Inductive load	-	44	-	ns
t_r	Rise time		-	100	-	ns
$t_{d(off)}$	Turn-off delay time		-	166	-	ns
t_f	Fall time		-	75	-	ns
E_{on}	Turn-on energy		-	2.3	-	mJ
E_{off}	Turn-off energy		-	1.3	-	mJ
E_{ts}	Total switching energy		-	3.6	-	mJ
$t_{d(on)}$	Turn-on delay time	V_{CC}=400V V_{GE}=0/15V I_C=60A R_G=10Ω Inductive load T_{vj} =175	-	45	-	ns
t_r	Rise time		-	105	-	ns
$t_{d(off)}$	Turn-off delay time		-	180	-	ns
t_f	Fall time		-	76	-	ns
E_{on}	Turn-on energy		-	3.6	-	mJ
E_{off}	Turn-off energy		-	1.6	-	mJ
E_{ts}	Total switching energy		-	5.2	-	mJ

(T_{vj}=25 unless otherwise specified)

V_F	Diode forward voltage	I_F=60A	-	2.5	-	V
		I_F=60A,T_{vj}=175	-	2.0	-	V
t_{rr}	Diode reverse recovery time	V_R=400V I_F=60A di_F/dt=-450A/μs	-	78	-	ns
I_{rrm}	Diode peak reverse recovery current		-	15	-	A
Q_{rr}	Diode reverse recovery charge		-	511	-	nC
t_{rr}	Diode reverse recovery time	V_R=400V I_F=60A di_F/dt=-450A/μs T_{vj}=175	-	126	-	ns
I_{rrm}	Diode peak reverse recovery current		-	26	-	A
Q_{rr}	Diode reverse recovery charge		-	2163	-	nC

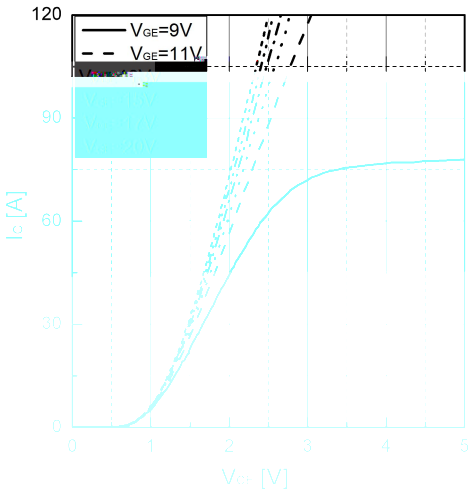


Fig 1. Typical output characteristic (T_{vj}=25)

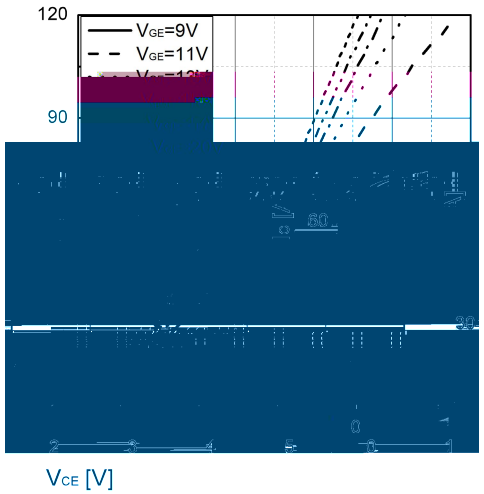


Fig 2. Typical output characteristic(T_{vj}=175)

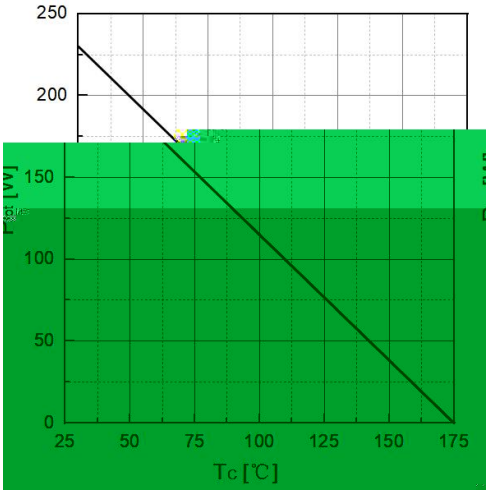


Fig 3. Power dissipation as a function of T_C

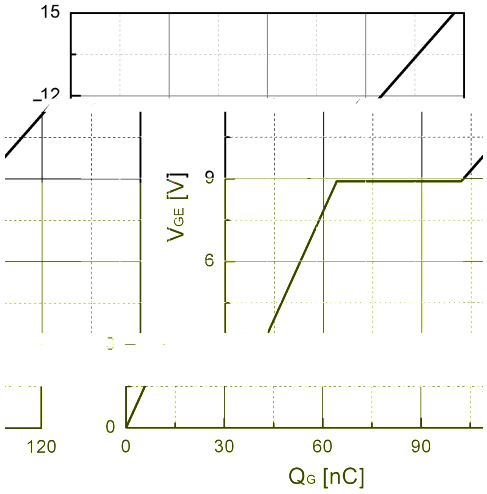


Fig 4. Typical Gate charge

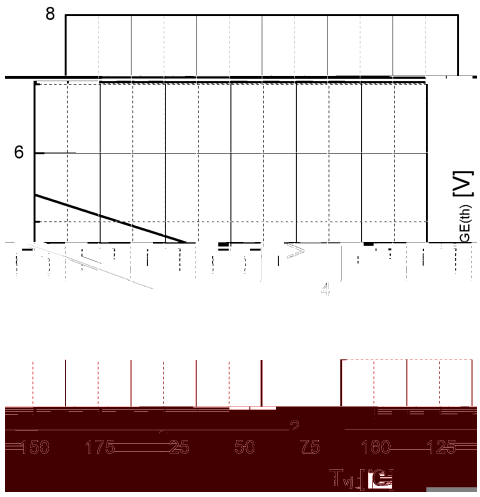


Fig 5. Typical $V_{GE(th)}$ as a function of T_{vj} (I_C=1mA)

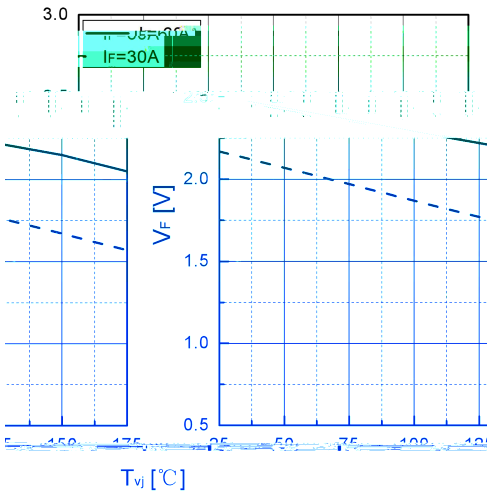


Fig 6. Typical V_F as a function of T_{vj}

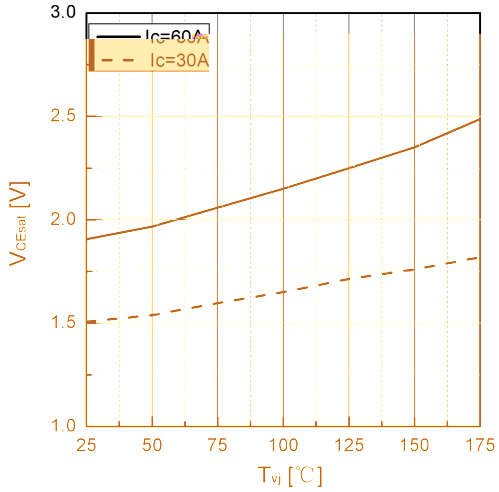


Fig 7. Typical V_{CEsat} as a function of T_{vj}

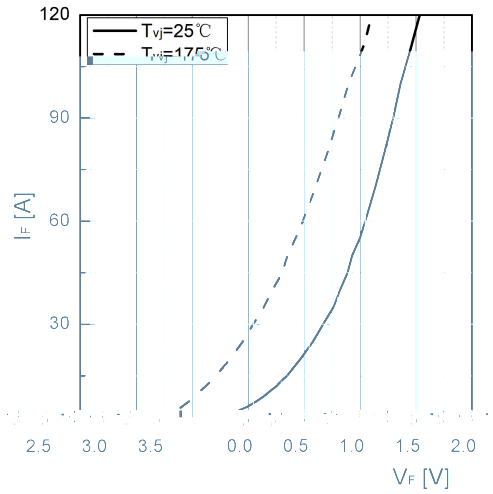


Fig 8. Typical I_F as a function of V_F

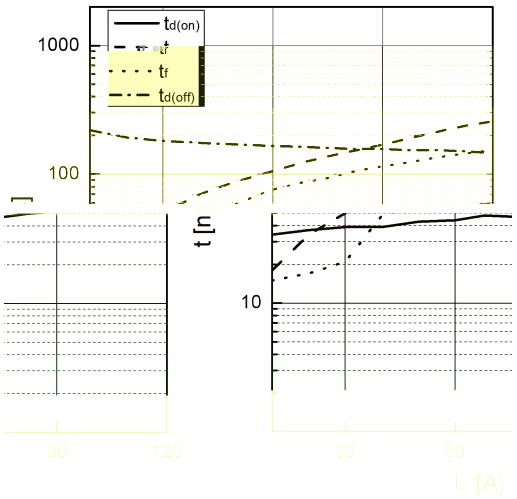


Fig 9. Typical switching time as a function of I_C

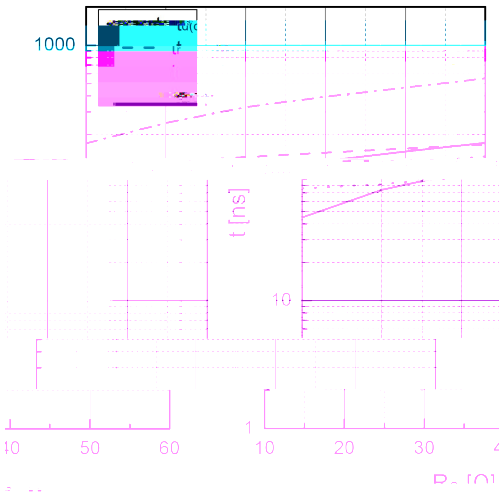


Fig 10. Typical switching times as a function of R_G

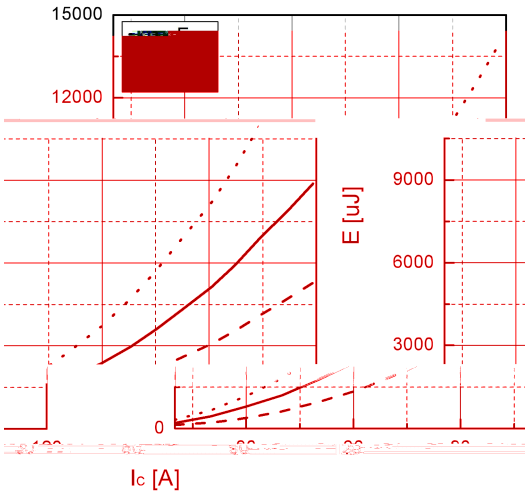


Fig 11. Typical switching energy losses as a function of I_C

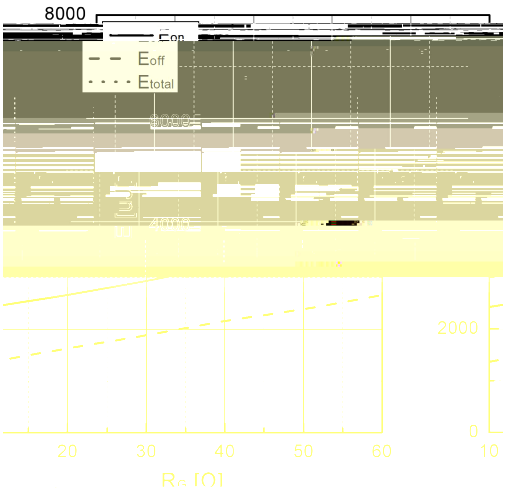


Fig 12. Typical switching energy losses as a function of R_G

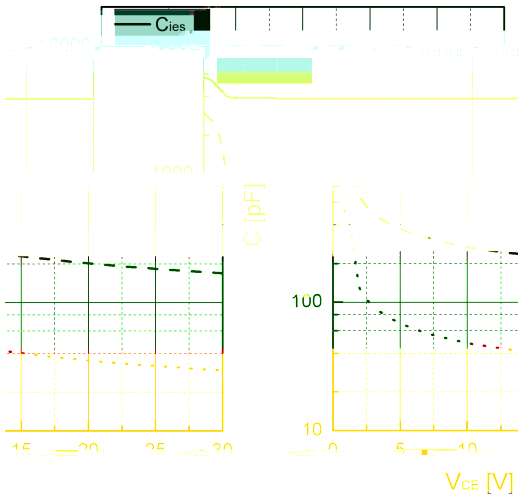


Fig 13. Typical capacitance as a function of V_{CE} (f=1Mhz, V_{GE}=0V)

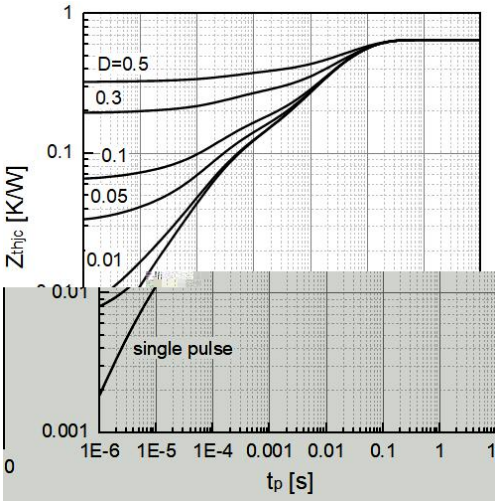


Fig 14. Transient thermal impedance of IGBT

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.95	16.00	16.05	0.627	0.62	

Date	Revision	Changes
2026-04-20	Rev 1.0	Preliminary Version
2026-06-25	Rev 1.1	Add thermal