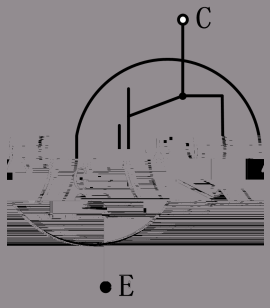
TO-263

- V_{CE}=650V
- I_C=20A@ T_C=100
- $V_{CE(sat)}$=1.6 V

- High ruggedness performance.
- 10μs short circuit capability.
- Positive $V_{CE\ (sat)}$ temperature coefficient.
- High efficiency for motor control.
- Excellent current sharing in parallel operation.
- RoHS compliant.



- Home appliances
- Motor drives
- General inverter

Type	Marking	Package	Packaging method
JJT20N65SC	T2065SC	TO-263	Tape and reel

V_{CES}	Collector-emitter voltage	650	V
V_{GES}	Gate-emitter voltage	±20	V
I_C	Continuous collector current (T_C=25)	40	A
	Continuous collector current (T_C=100)	20	A
I_{CM}	Pulsed collector current, t_p limited by T_{vjmax}	80	A
I_F	Diode continuous forward current (T_C=100)	20	A
I_{FM}	Diode maximum current, t_p limited by T_{vjmax}	80	A
t_{sc}	Short circuit withstand time	10	µs
P_{tot}	Power dissipation (T_C=25		

CES	Collector-emitter breakdown voltage	GE=0V, C=250μA	650	-	-	V
CES	Collector-emitter leakage current	CE=650V, GE=0V	-	-	50	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= CE, C=1mA	5.2	5.7	6.2	V
CE(sat)	Collector-emitter saturation voltage	GE=15V, C=20A	-	1.6	-	V
		GE=15V, C=20A, vj=175	-	2.0	-	V

ies	Input capacitance	CE=30V GE=0V =1MHz	-	700	-	pF
oes	Output capacitance		-		-	pF
res	Reverse transfer capacitance		-	13	-	pF
g						

d(on)

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

$_{F}$	Diode forward voltage	$_{F}$=20A	-	1.6	-	V
		$_{F}$=20A, $_{vj}$=175	-	1.2	-	V
$_{rr}$	Diode reverse recovery time	$_{R}$=400V $_{F}$=20A d $_{F}$/d =-500A/μs	-	62	-	ns
$_{rrm}$	Diode peak reverse recovery current		-	12	-	A
$_{rr}$	Diode reverse recovery charge		-	472	-	nC
$_{rr}$	Diode reverse recovery time	$_{R}$=400V $_{F}$=20A d $_{F}$/d =-500A/μs $_{vj}$=175	-	90	-	ns
$_{rrm}$	Diode peak reverse recovery current		-	19	-	A
$_{rr}$	Diode reverse recovery charge		-	1130	-	nC

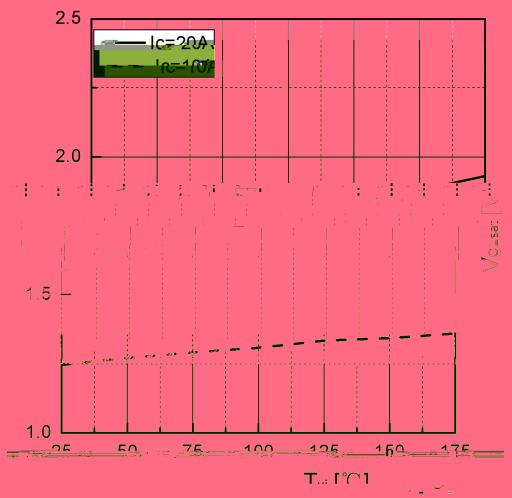


Fig 7. Typical $_{CEsat}$ as a function of $_{vj}$

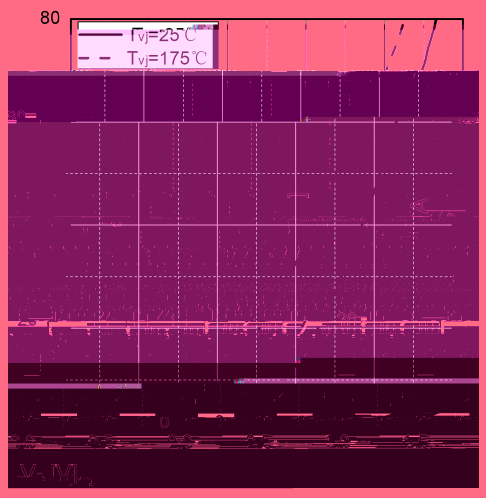


Fig 8. Typical $_{F}$ as a function of $_{F}$

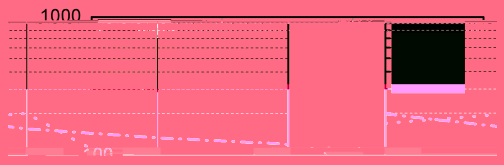


Fig 9. Typical switching time as a function of $_{C}$

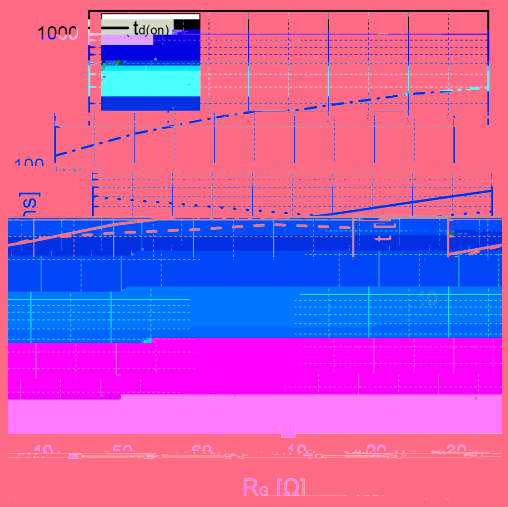


Fig 10. Typical switching times as a function of $_{G}$

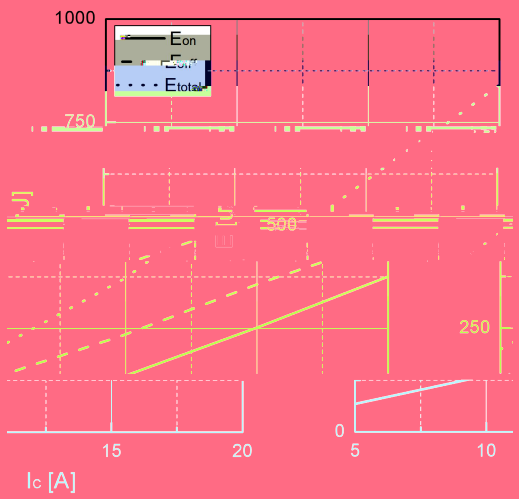


Fig 11. Typical switching energy losses as a function of $_{C}$

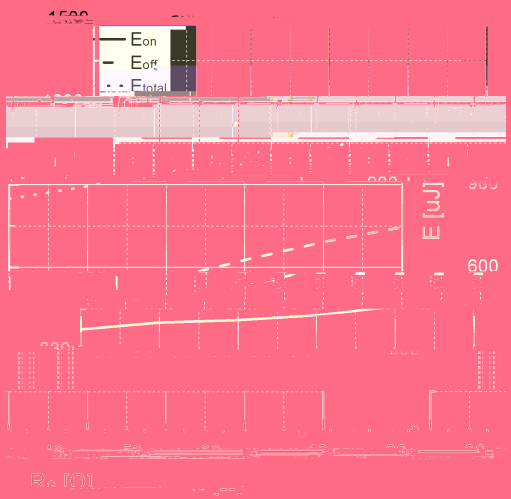


Fig 12. Typical switching energy losses as a function of $_{G}$

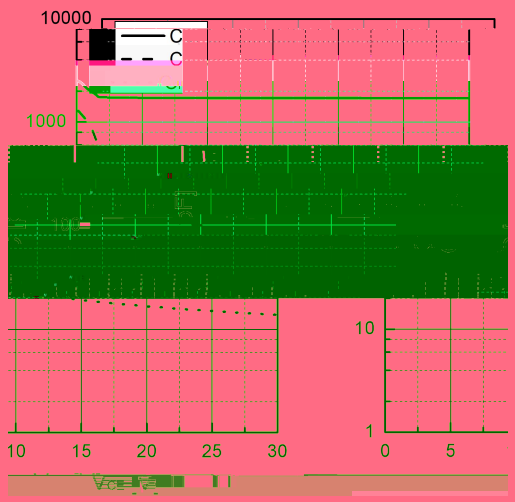


Fig 13. Typical capacitance as a function of $_{CE}$ ($f=1Mhz$, $_{GE}=0V$)

Dimensions

Ref.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90	-	10.20	0	Ů	

Date	Revision	Changes
2024-05-20	Rev 1.1	Update
2024-06-21	Rev 1.2	Update
2025-03-06	Rev 1.3	Character update