JJMICROELECTRONICS

650V 30A Trench and Field Stop IGBT

JJT30N65SY

- $_{CE}$=650V
- $_{C}$=30A@ $_{C}$=100
- $_{CE(sat)}$=1.7 V

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

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V_{CES}	Collector-emitter voltage	650	V
V_{GES}	Gate-emitter voltage	Ñ20	V
I_C	Continuous collector current ($_C$=25)	60	A
	Continuous collector current ($_C$=100)	30	A
I_{CM}	Pulsed collector current, $_p$ limited by $_{vjmax}$	120	A
I_F	Diode continuous forward current ($_C$=100)	30	A
I_{FM}	Diode maximum current, $_p$ limited by $_{vjmax}$	80	A
t_{sc}	Short circuit withstand time	10	µs
P_{tot}	Power dissipation ($_C$=25)	250	W
	Power dissipation ($_C$=100 (, l " Λ		

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

$_{F}$	Diode forward voltage	$_{F}$=30A	-	1.7	-	V
		$_{F}$=30A, $_{vj}$=175	-	1.4	-	V
$_{rr}$	Diode reverse recovery time	$_{R}$=400V $_{F}$=30A d $_{F}$/d =-550A/μs	-	105	-	ns
$_{rrm}$	Diode peak reverse recovery current		-	16	-	A
$_{rr}$	Diode reverse recovery charge		-	876	-	nC
$_{rr}$	Diode reverse recovery time	$_{R}$=400V $_{F}$=30A d $_{F}$/d =-550A/μs $_{vj}$=175	-	171	-	ns
$_{rrm}$	Diode peak reverse recovery current		-	26	-	A
$_{rr}$	Diode reverse recovery charge		-	2650	-	nC

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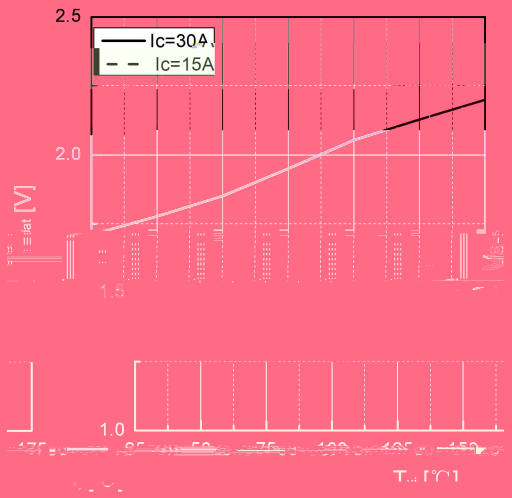


Fig 7. Typical $_{CEsat}$ as a function of $_{vj}$

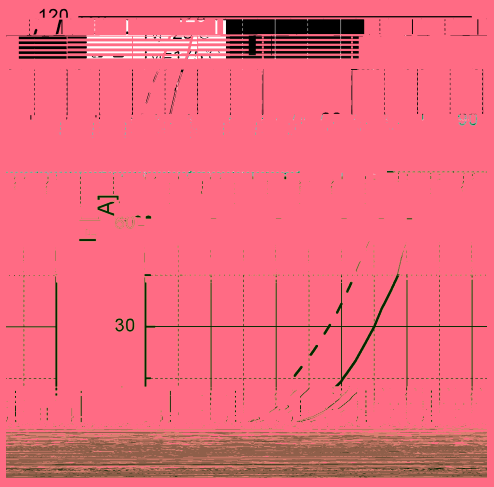


Fig 8. Typical $_{F}$ as a function of $_{F}$

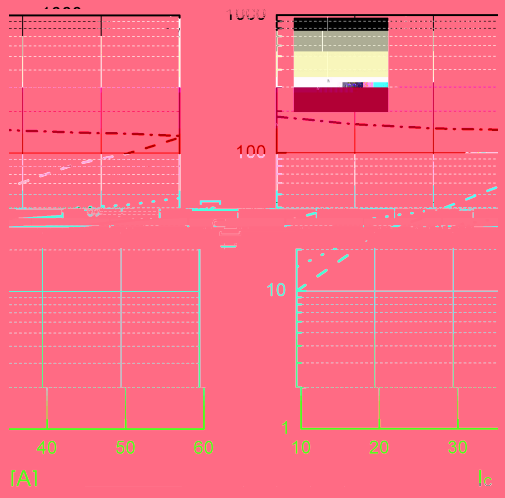


Fig 9. Typical switching time as a function of $_{C}$



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

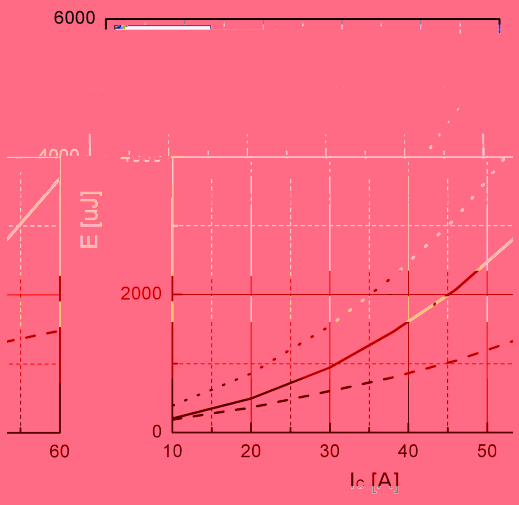


Fig 11. Typical switching energy losses as a function of $_{C}$

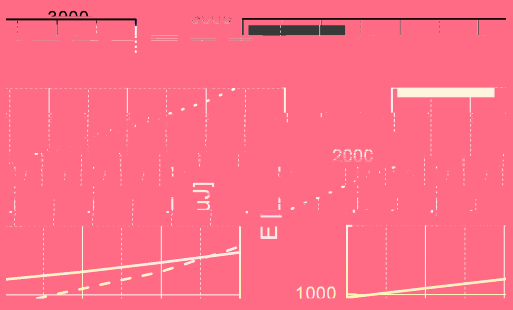


Fig 12. Typical switching energy losses as a function of $_{G}$

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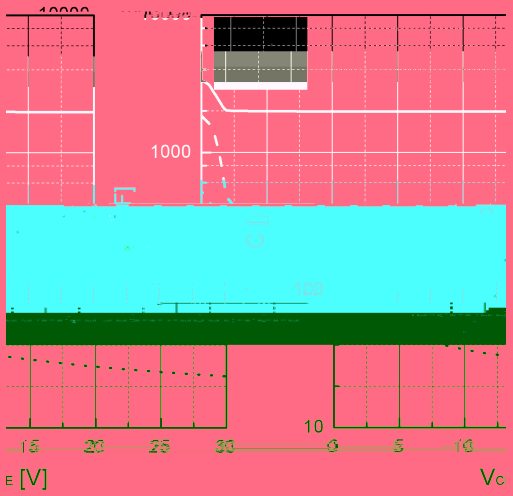


Fig 13. Typical capacitance as a function of $_{CE}$ (f=1Mhz, $_{GE}$=0V)

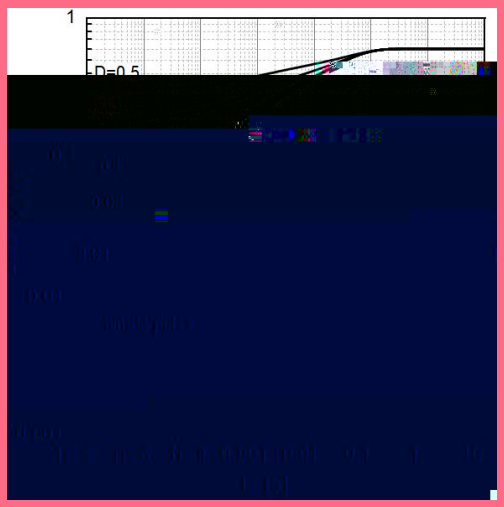
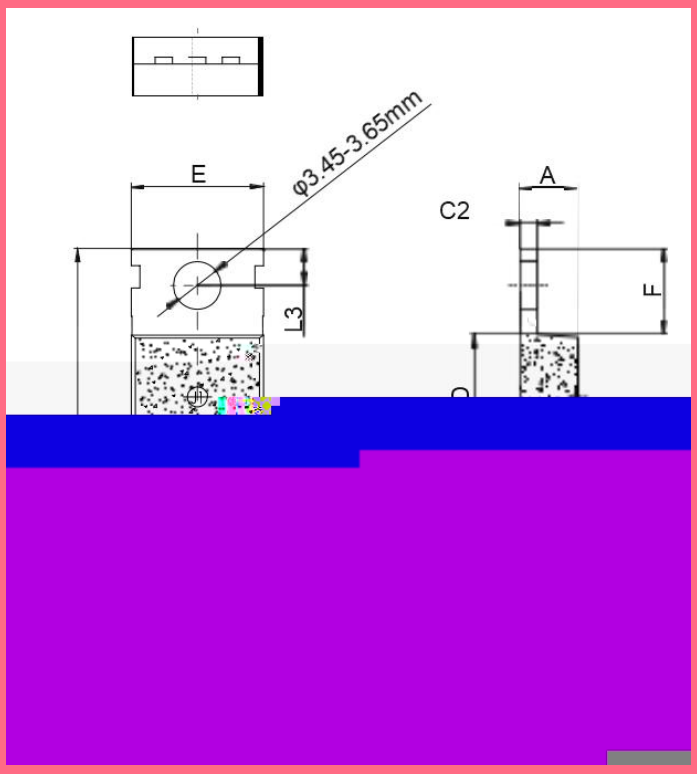


Fig 14. Transient thermal impedance, IGBT

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TO-220



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40	-	4.60	0.173	-	0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.23		1.32	0.048		0.052
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G		2.54			0.100	
H	28.0		29.8	1.102		1.173
L1		3.39			0.133	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116

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[redacted]	[redacted]	[redacted] e datashe
[redacted]	Rev 1.1	Character update
2026-06-24	Rev 1.2	Update thermal

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