JJMICROELECTRONICS

All product in

V_{CES}	Collector-emitter voltage	650	V
V_{GES}	Gate-emitter voltage	±20	V
I_C	Continuous collector current (T_C=25)	20	A
	Continuous collector current (T_C=100)	10	A
I_{CM}	Pulsed collector current, t_p limited by T_{vjmax}	40	A
I_F	Diode continuous forward current (T_C=100)	10	A
I_{FM}	Diode maximum current, t_p limited by T_{vjmax}	40	A
t_{sc}	Short circuit withstand time	10	µs
P_{tot}	Power dissipation (T_C=25)	75	W
	Power dissipation (T_C=100)	38	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	-	2.0	K/ W
$R_{th(j-c)}$	Thermal resistance, junction to case for Diode	-	2.2	K/ W
$R_{th(j-a)}$	Thermal resistance, junction to ambient	-	90	K/ W

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

$_{F}$	Diode forward voltage	$_{F}$=10A	-	1.4	-	V
		$_{F}$=10A, $_{vj}$=175	-	1.2	-	V
$_{rr}$	Diode reverse recovery time	$_{R}$=400V $_{F}$=10A d $_{F}$/d =-750A/μs	-	57	-	ns
$_{rrm}$	Diode peak reverse recovery current		-	12	-	A
$_{rr}$	Diode reverse recovery charge		-	411	-	nC
$_{rr}$	Diode reverse recovery time	$_{R}$=400V $_{F}$=10A d $_{F}$/d =-750A/μs $_{vj}$=175	-	122	-	ns
$_{rrm}$	Diode peak reverse recovery current		-	14	-	A
$_{rr}$	Diode reverse recovery charge		-	741	-	nC

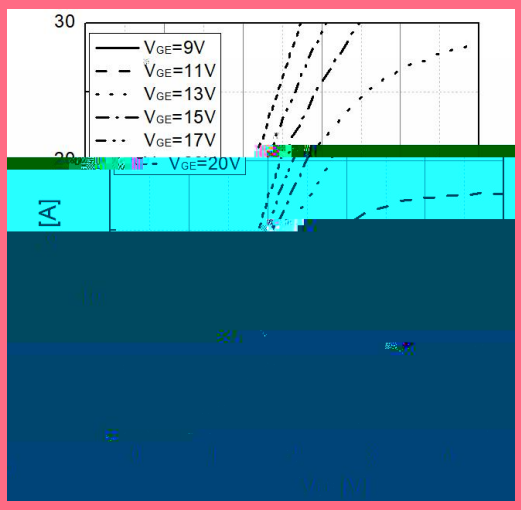

Fig 1. Typical output characteristic (vj=25)

Fig 2. Typical output characteristic(vj=175)

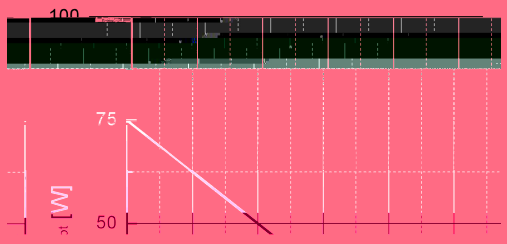

Fig 3. Power dissipation as a function of

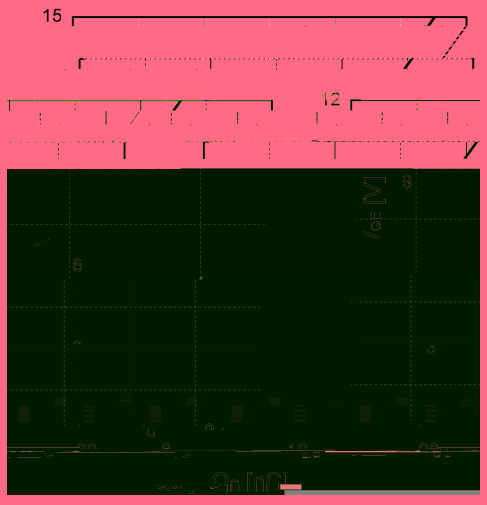

Fig 4. Typical Gate charge

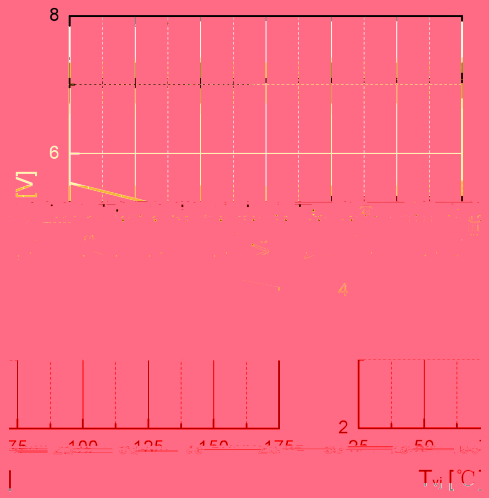

Fig 5. Typical GE(th) as a function of vj (C=1mA)

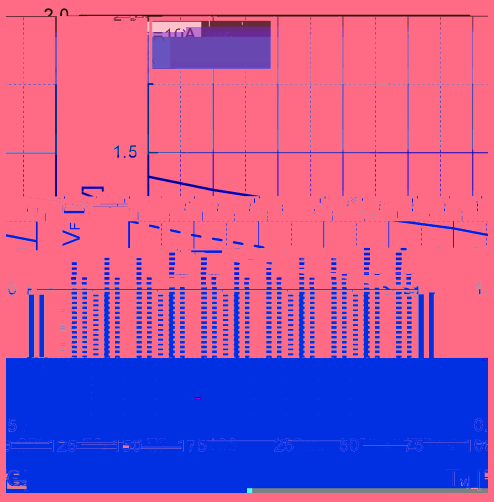

Fig 6. Typical F as a function of vj

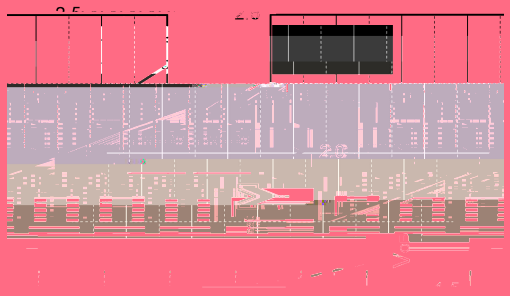

Fig 7. Typical $_{CEsat}$ as a function of $_{vj}$

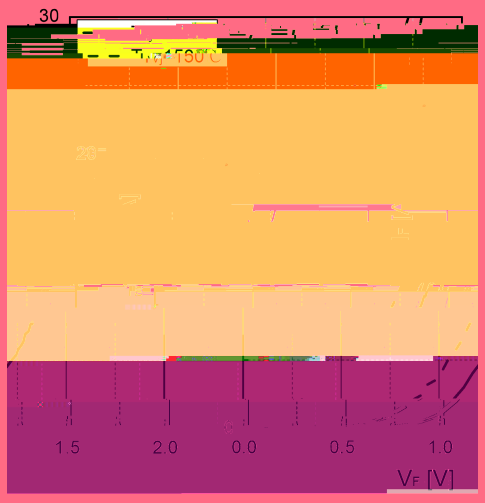

Fig 8. Typical $_{F}$ as a function of $_{F}$

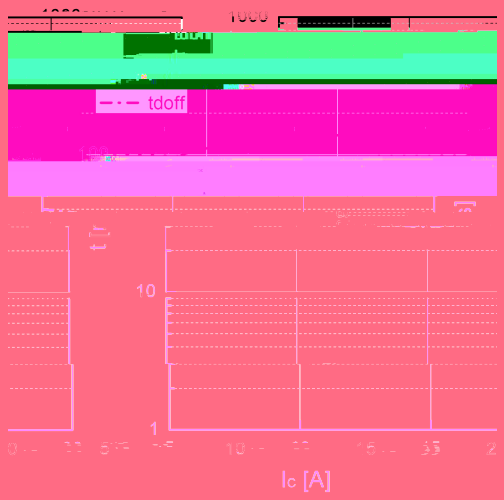

Fig 9. Typical switching time as a function of $_{C}$

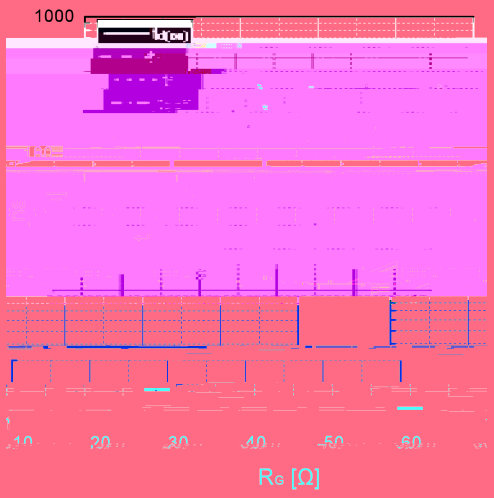

Fig 10. Typical switching times as a function of $_{G}$

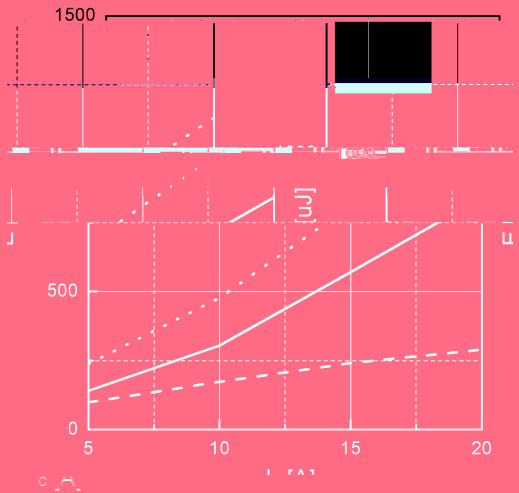

Fig 11. Typical switching energy losses as a function of $_{C}$

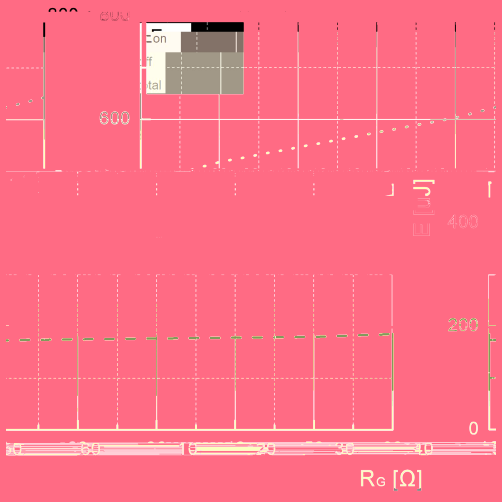

Fig 12. Typical switching energy losses as a function of $_{G}$

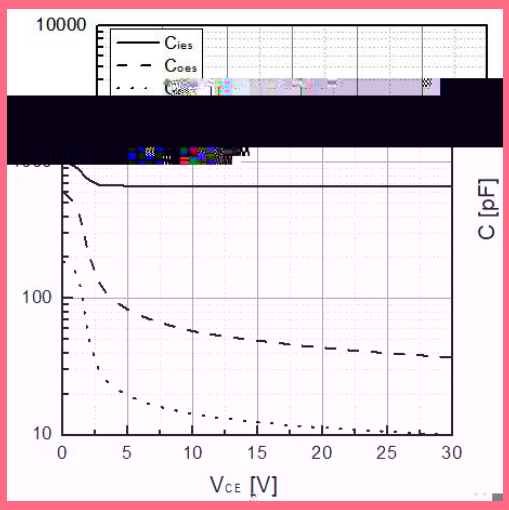

Fig 13. Typical capacitance as a function of $_{CE}$ (f=1Mhz, $_{GE}$=0V)

Date	Revision	Changes
2025-04-08	Rev 1.0	Release of the datasheet

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