



CES	Collector-emitter voltage	650	V
GES	Gate-emitter voltage	±20	V
C	Continuous collector current ($T_C=25^\circ\text{C}$)	20	A
	Continuous collector current ($T_C=100^\circ\text{C}$)	10	A
CM	Pulsed collector current, I_P limited by T_{vjmax}	40	A
F	Diode continuous forward current ($T_C=100^\circ\text{C}$)	10	A
FM	Diode maximum current, I_P limited by T_{vjmax}	40	A
sc	Short circuit withstand time	10	µs
P_{tot}	Power dissipation ($T_C=25^\circ\text{C}$)	75	W
	Power dissipation ($T_C=100^\circ\text{C}$)	38	W
T_{vj}	Operating junction temperature range	-40 to +175	
T_{stg}	Storage temperature range	-55 to +150	

$\theta_{(j-c)}$	Thermal resistance, junction to case for IGBT	-	2.0	K/ W
$\theta_{(j-c)}$	Thermal resistance, junction to case for Diode	-	2.2	K/ W
$\theta_{(j-a)}$	Thermal resistance, junction to ambient	-	90	K/ W





($v_j=25$ unless otherwise specified)

F	Diode forward voltage	$I_F=10A$	-	1.4	-	V
		$I_F=10A, v_j=175$	-	1.2	-	V
t_{rr}	Diode reverse recovery time	$V_R=400V$ $I_F=10A$ $dI_F/dt=-750A/\mu s$	-	57	-	ns
I_{rrm}	Diode peak reverse recovery current		-	12	-	A
Q_{rr}	Diode reverse recovery charge		-	411	-	nC
t_{rr}	Diode reverse recovery time	$V_R=400V$ $I_F=10A$ $dI_F/dt=-750A/\mu s$ $v_j=175$	-	122	-	ns
I_{rrm}	Diode peak reverse recovery current		-	14	-	A
Q_{rr}	Diode reverse recovery charge		-	741	-	nC

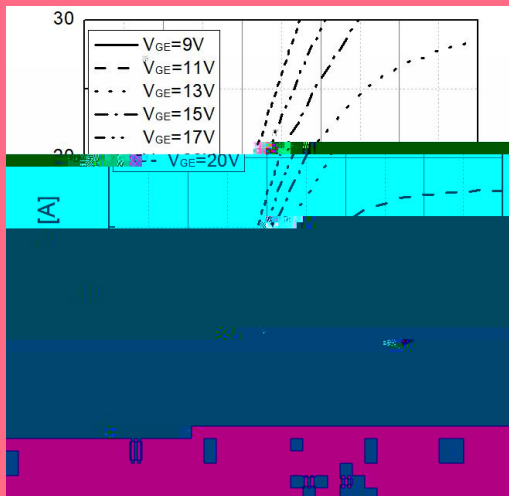


Fig 1. Typical output characteristic ($V_{DS}=25$)

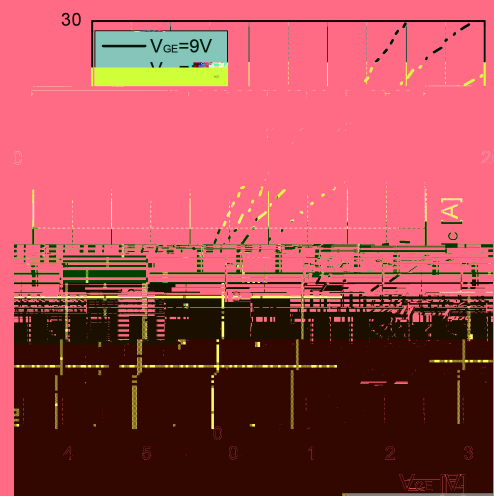


Fig 2. Typical output characteristic($V_{DS}=175$)

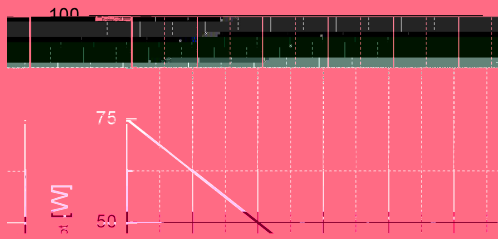


Fig 3. Power dissipation as a function of

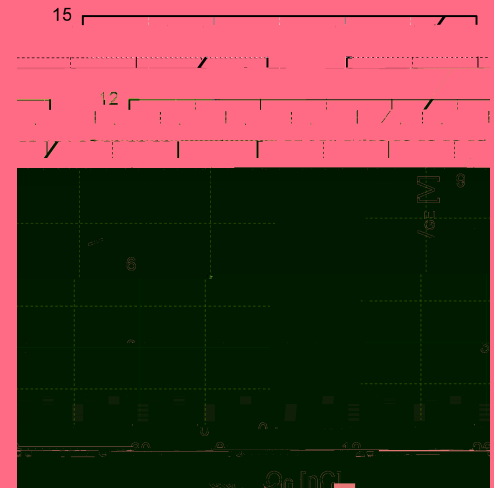


Fig 4. Typical Gate charge

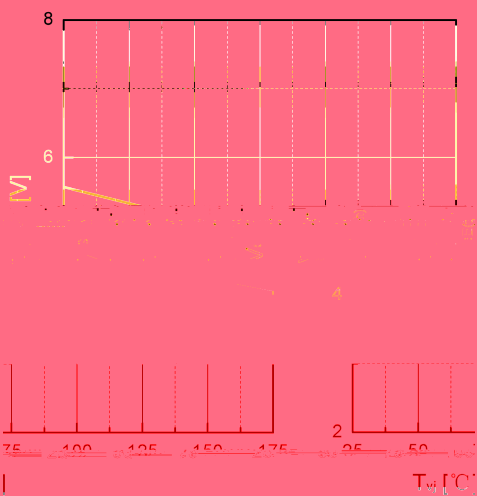


Fig 5. Typical $V_{GS(th)}$ as a function of V_{DS} ($I_D=1mA$)

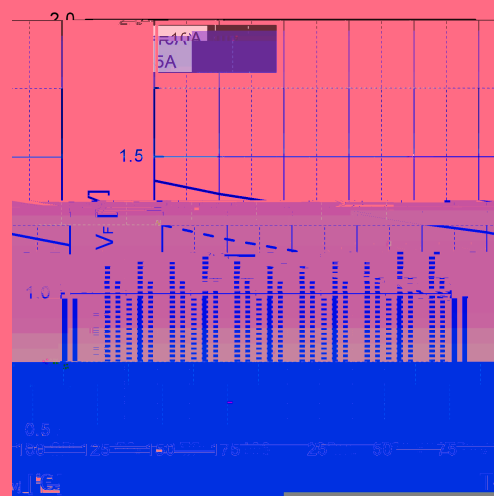


Fig 6. Typical V_{DS} as a function of V_{GS}

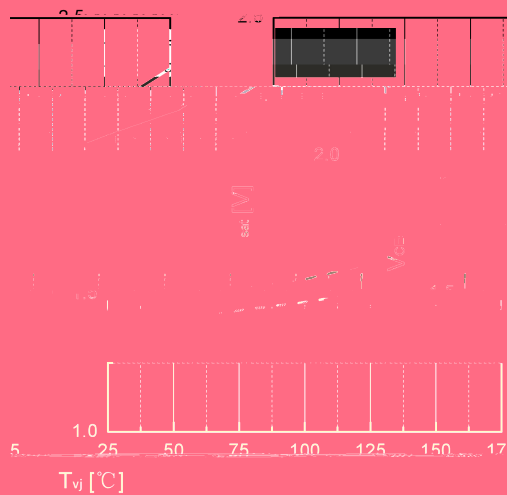


Fig 7. Typical $C_{E_{sat}}$ as a function of v_j

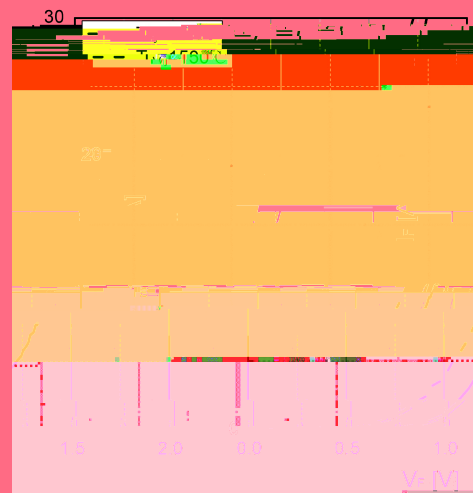


Fig 8. Typical F as a function of F

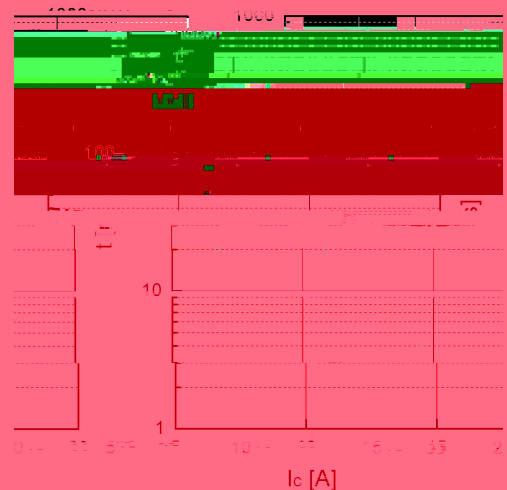


Fig 9. Typical switching time as a function of I_c



Fig 10. Typical switching times as a function of R_g

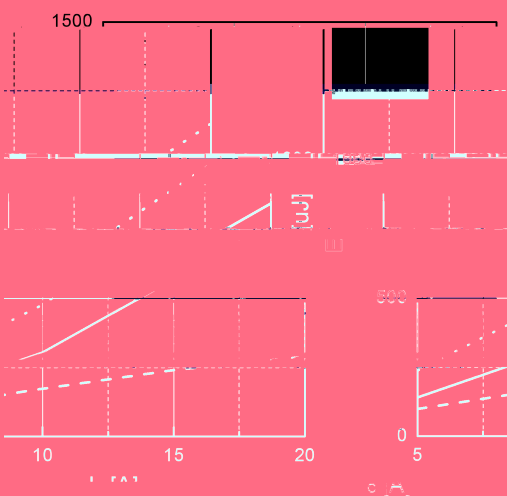


Fig 11. Typical switching energy losses as a function of I_c

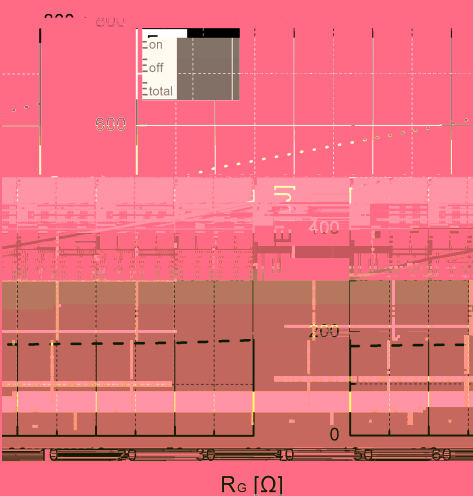


Fig 12. Typical switching energy losses as a function of R_g

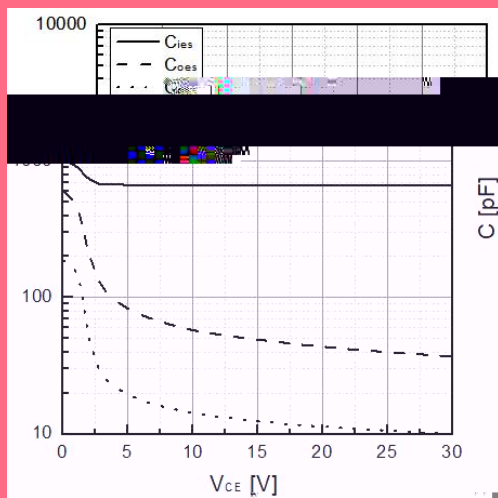


Fig 13. Typical capacitance as a function of V_{CE}
($f=1\text{MHz}$, $V_{GE}=0\text{V}$)



Outline

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

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