





CES	Collector-emitter voltage	650	V
GES	Gate-emitter voltage	$\pm 20$	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 $v_{jmax}$	40	A
F	Diode continuous forward current ( $T_c=100^\circ\text{C}$ )	10	A
FM	Diode maximum current, $I_p$ limited by $v_{jmax}$	40	A
sc	Short circuit withstand time	10	$\mu\text{s}$
tot	Power dissipation ( $T_c=25^\circ\text{C}$ )	75	W
	Power dissipation ( $T_c=100^\circ\text{C}$ )	38	W
vj	Operating junction temperature range	-40 to +175	
stg	Storage temperature range	-55 to +150	

th(j-c)	Thermal resistance, junction to case for IGBT	-	2.0	K/ W
th(j-c)	Thermal resistance, junction to case for Diode	-	2.2	K/ W
th(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	$V_R=400V$ $I_F=10A$ $d I_F/d t = -750A/\mu s$	-	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	$V_R=400V$ $I_F=10A$ $d I_F/d t = -750A/\mu s$ $v_j=175$	-	122	-	ns
$I_{rrm}$	Diode peak reverse recovery current		-	14	-	A
$Q_{rr}$	Diode reverse recovery charge		-	741	-	nC

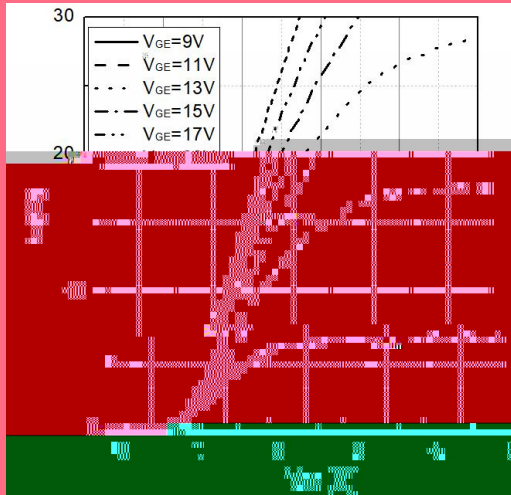


Fig 1. Typical output characteristic (  $v_j=25$  )

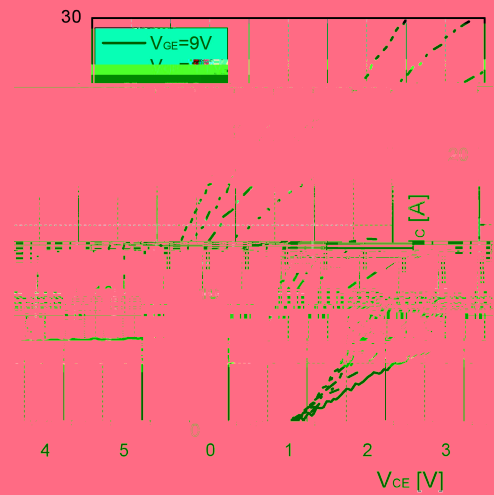


Fig 2. Typical output characteristic(  $v_j=175$  )

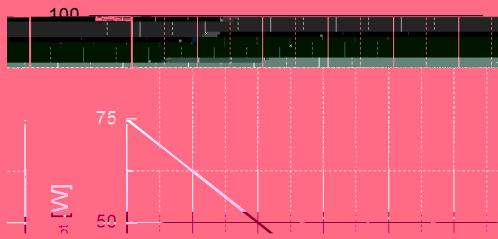


Fig 3. Power dissipation as a function of

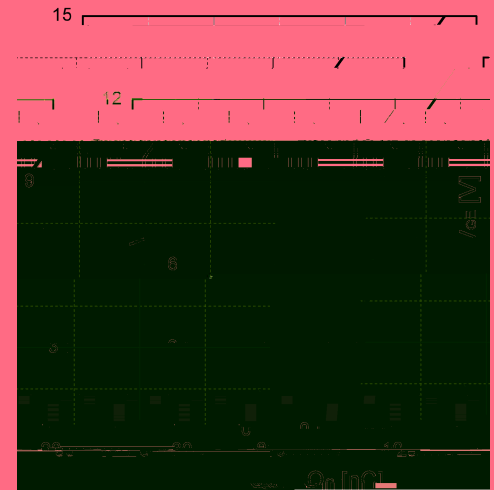


Fig 4. Typical Gate charge

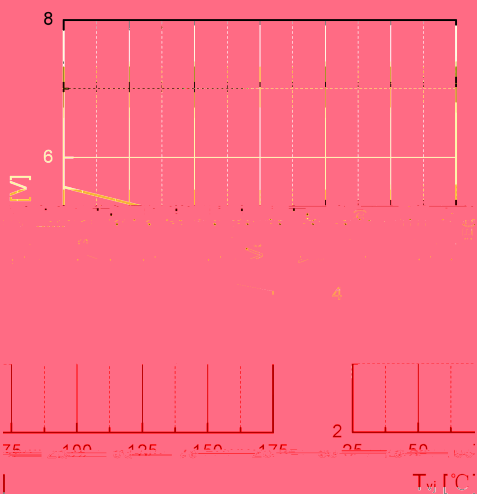


Fig 5. Typical  $V_{GE(th)}$  as a function of  $v_j$  ( $c=1mA$ )

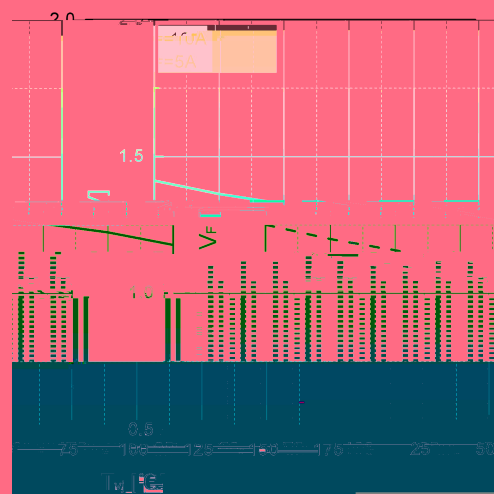


Fig 6. Typical  $V_F$  as a function of  $v_j$

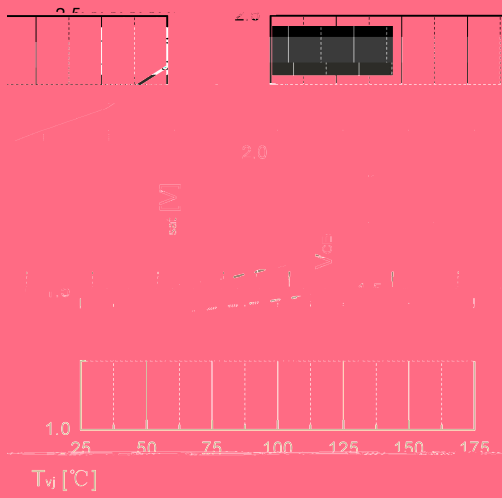


Fig 7. Typical  $C_{E\text{sat}}$  as a function of  $v_j$

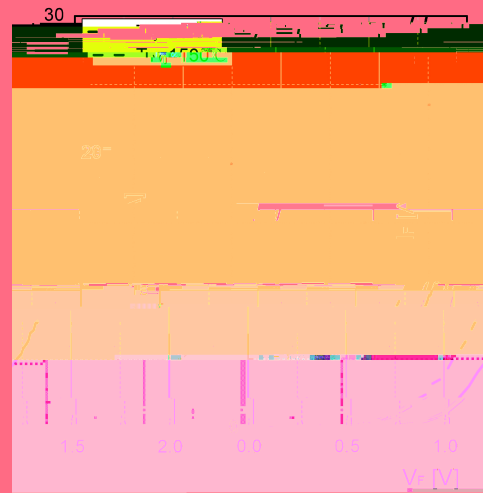


Fig 8. Typical  $F$  as a function of  $F$



Fig 9. Typical switching time as a function of  $I_c$

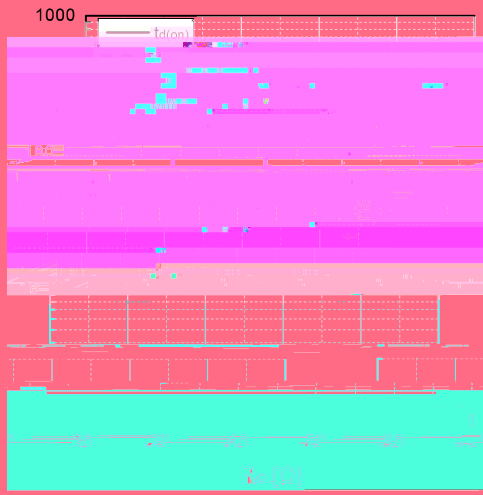


Fig 10. Typical switching times as a function of  $I_G$

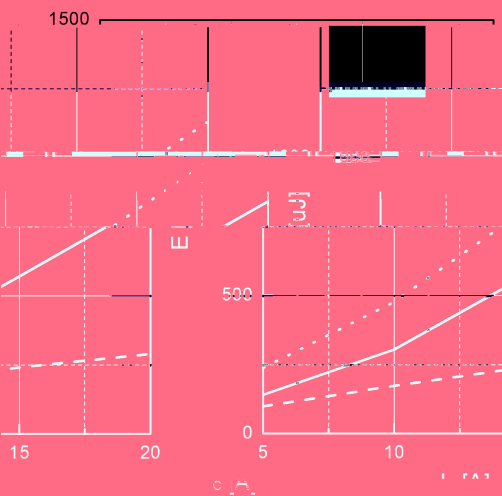


Fig 11. Typical switching energy losses as a function of  $I_c$

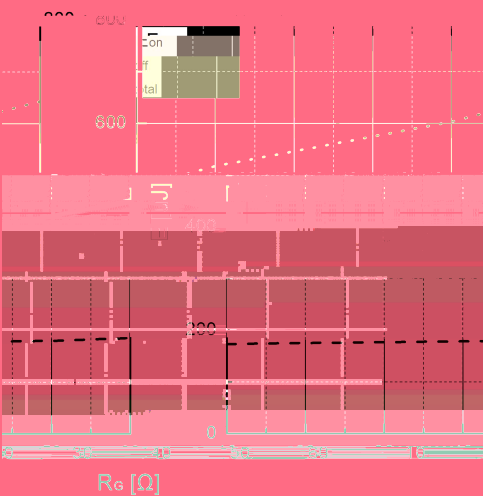


Fig 12. Typical switching energy losses as a function of  $R_G$

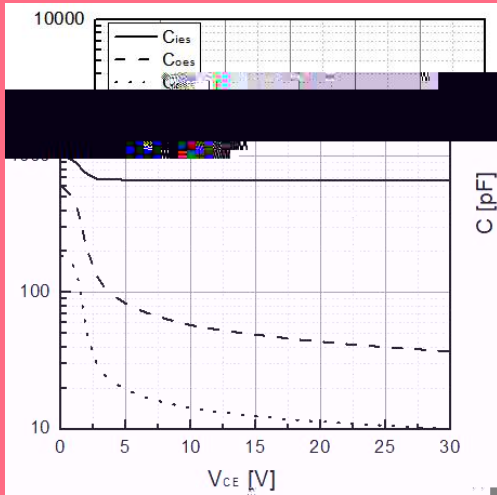


Fig 13. Typical capacitance as a function of  $V_{CE}$   
( $f=1\text{MHz}$ ,  $V_{GE}=0\text{V}$ )



# DATA SHEET

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

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