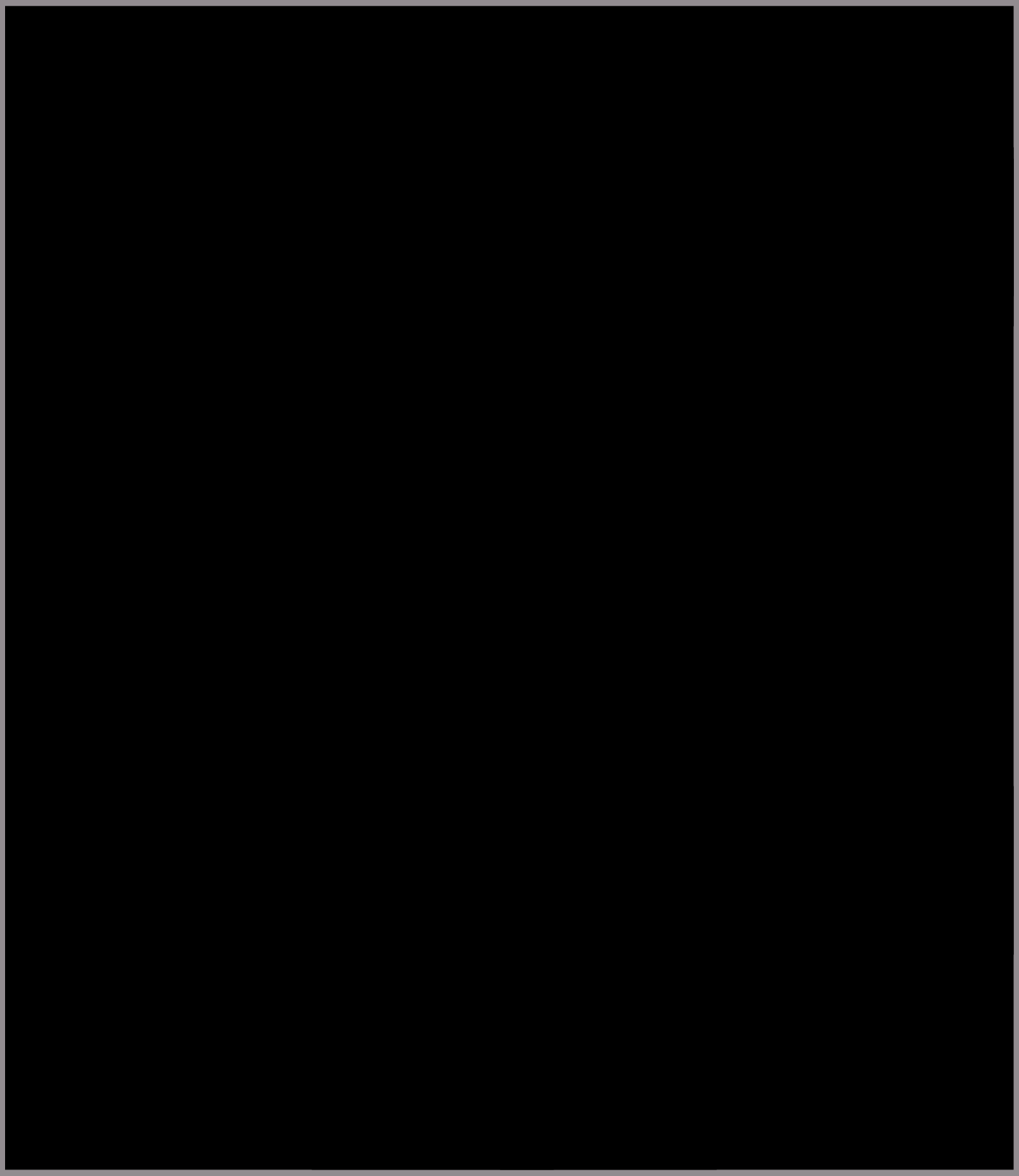
JJMICROELECTRONICS

650V 10A Trench and Field Stop IGBT

JJT10N65SC



REV A.1.2 | APR 2025

$_{CES}$	Collector-emitter voltage	650	V
$_{GES}$	Gate-emitter voltage	±20	V
$_{C}$	Continuous collector current ($_{C}$=25)	20	A
	Continuous collector current ($_{C}$=100)	10	A
$_{CM}$	Pulsed collector current, $_{p}$ limited by $_{vjmax}$	40	A
$_{F}$	Diode continuous forward current ($_{C}$=100)	10	A
$_{FM}$	Diode maximum current, $_{p}$ limited by $_{vjmax}$	40	A
$_{sc}$	Shm l		

$_{CES}$	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	5.3	5.8	6.3	V
$_{CE(sat)}$	Collector-emitter saturation voltage	$_{GE}$=15V, $_{C}$=10A	-	1.8	-	V
		$_{GE}$=15V, $_{C}$=10A				

($_{vj}$=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	-	124	-	ns
$_{rrm}$	Diode peak reverse recovery current		-	13	-	A
$_{rr}$	Diode reverse recovery charge		-	737	-	nC

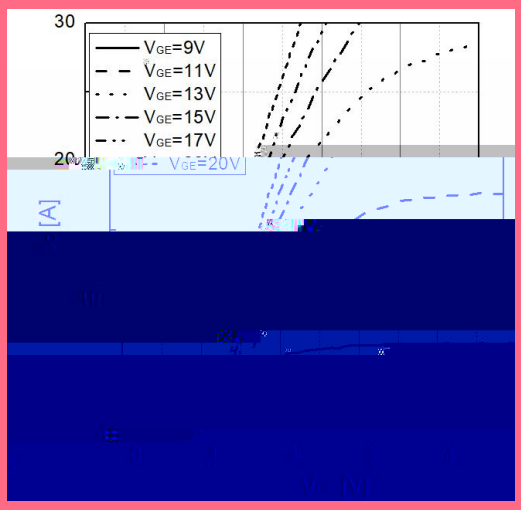


Fig 1. Typical output characteristic (vj=25)

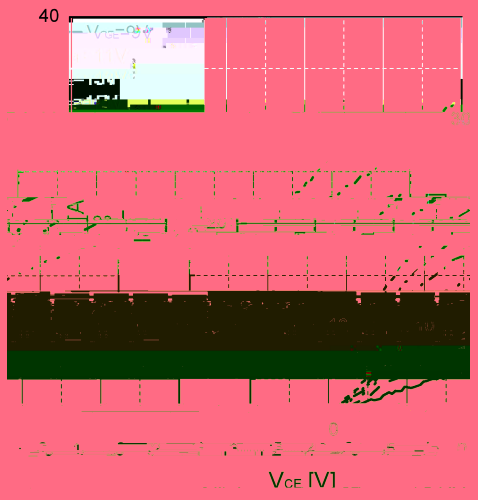


Fig 2. Typical output characteristic(vj=175)

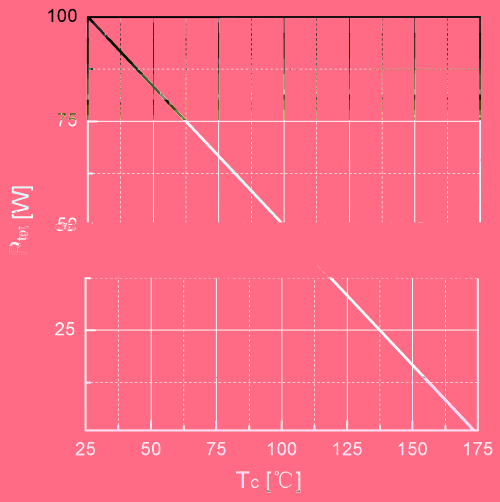


Fig 3. Power dissipation as a function of

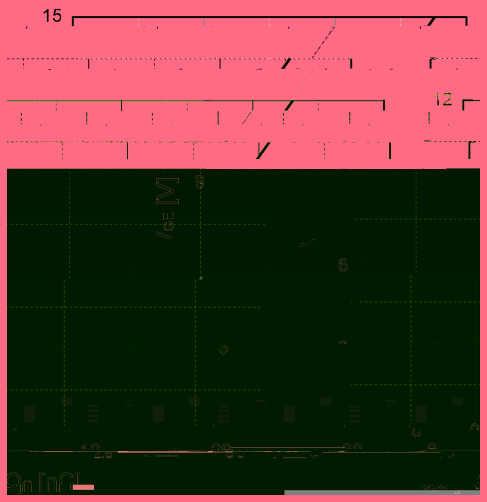


Fig 4. Typical Gate charge

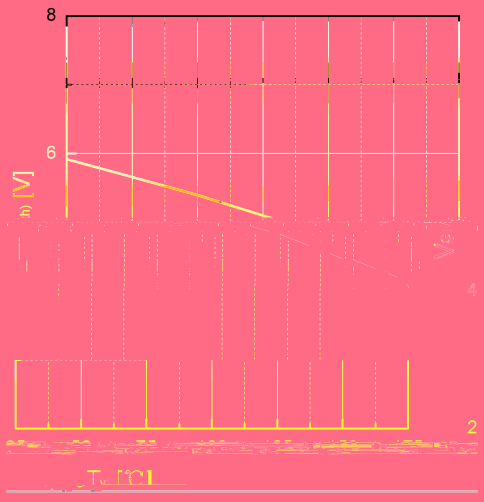


Fig 5. Typical GE(th) as a function of vj (C=1mA)

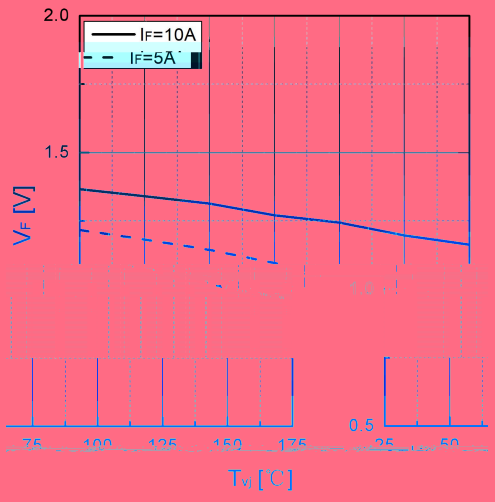


Fig 6. Typical F as a function of vj