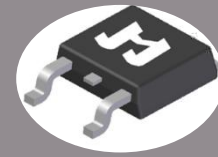


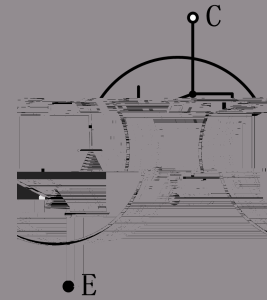
- $V_{CE} = 650V$
- $I_C = 10A @ V_{CE} = 100V$
- $V_{CE(sat)} = 1.8V$

TO-252



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

- Home appliances
- Motor drives



Type	Marking	Package	Packaging method
JJT10N65ST	T1065ST	TO-252	Tape and reel



CES	Collector-emitter voltage	650	V
GES	Gate-emitter voltage	±20	V
C	Continuous collector current ( $\tau_c=25 \mu s$ )	20	A
	Continuous collector current ( $\tau_c=100 \mu s$ )	10	A
CM	Pulsed collector current, $I_p$ limited by $v_{jmax}$	40	A
F	Diode continuous forward current ( $\tau_c=100 \mu s$ )	10	A
FM	Diode maximum current, $I_p$ limited by $v_{jmax}$	40	A
sc	Short circuit withstand time	10	$\mu s$
tot	Power dissipation ( $\tau_c=25 \mu s$ )	75	W
	Power dissipation ( $\tau_c=100 \mu s$ ) $I_{e,sc} = 7 A$		$\Delta$



CES	Collector-emitter breakdown voltage	$V_{GE}=0V, I_C=250\mu A$	650	-	-	V
CES	Collector-emitter leakage current	$V_{CE}=650V, V_{GE}=0V$	-	-	50	$\mu A$
	Gate leakage current, forward	$V_{GE}=20V, V_{CE}=0V$	-	-	100	nA
GES	Gate leakage current, reverse	$V_{GE}=-20V, V_{CE}=0V$	-	-	-100	nA

G



(  $v_j=25$  unless otherwise specified)

F	Diode forward voltage	$I_F=10A$	-	1.4	-	V
		$I_F=10A, v_j=175$	-	1.2	-	V
$t_r$	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
$t_r$	Diode reverse recovery time	$V_R=400V$ $I_F=10A$ $d I_F/d t = -750A/\mu s$ $v_j=175$	-	124	-	ns
$I_{rrm}$	Diode peak reverse recovery current		-	13	-	A
$Q_{rr}$	Diode reverse recovery charge		-	737	-	nC

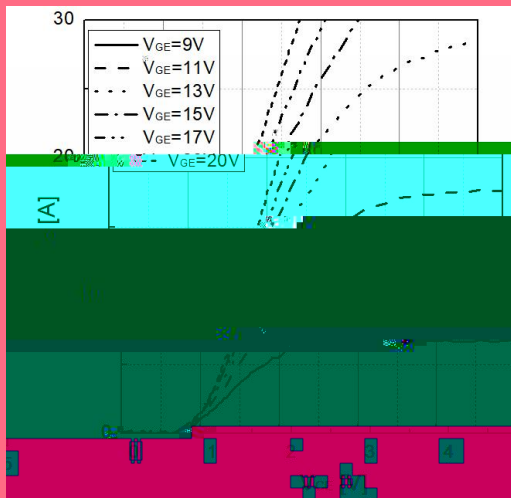


Fig 1. Typical output characteristic (  $v_j=25^\circ\text{C}$  )

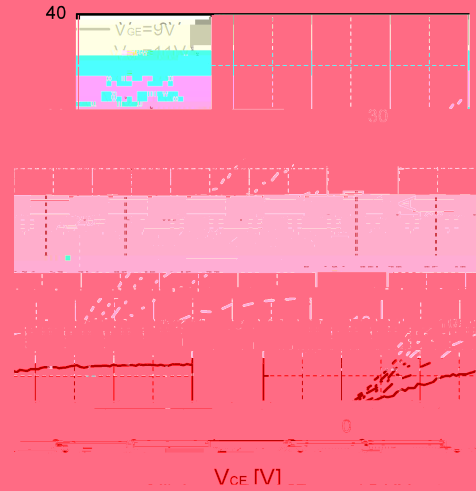


Fig 2. Typical output characteristic (  $v_j=175^\circ\text{C}$  )

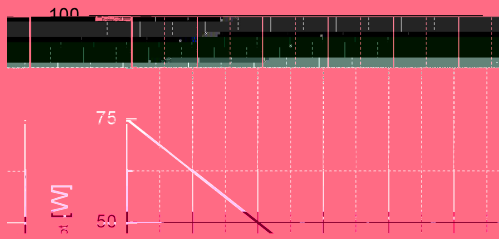


Fig 3. Power dissipation as a function of  $v_j$

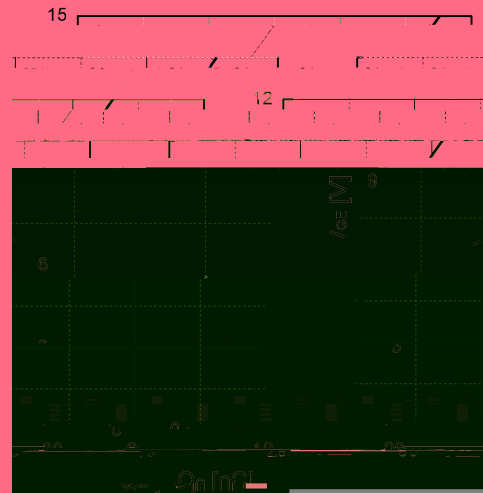


Fig 4. Typical Gate charge

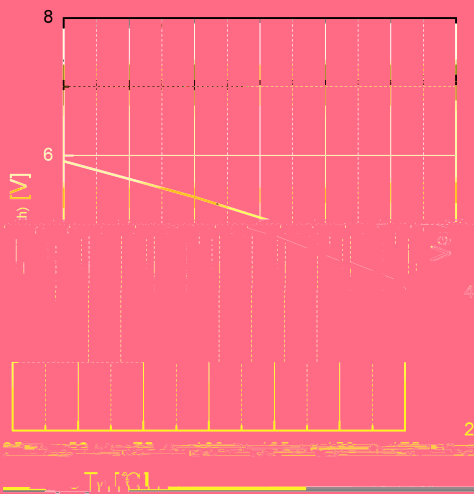


Fig 5. Typical  $V_{GE(th)}$  as a function of  $v_j$  ( $c=1\text{mA}$ )

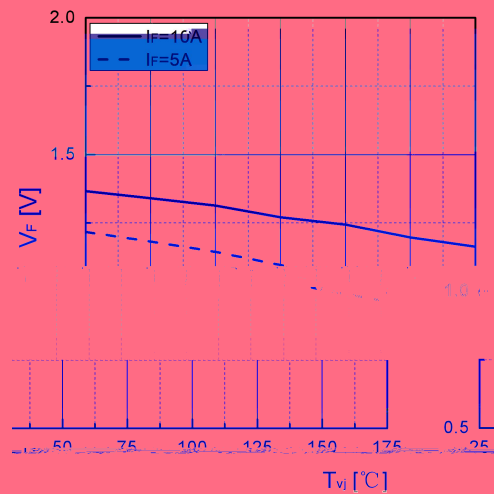


Fig 6. Typical  $V_F$  as a function of  $v_j$

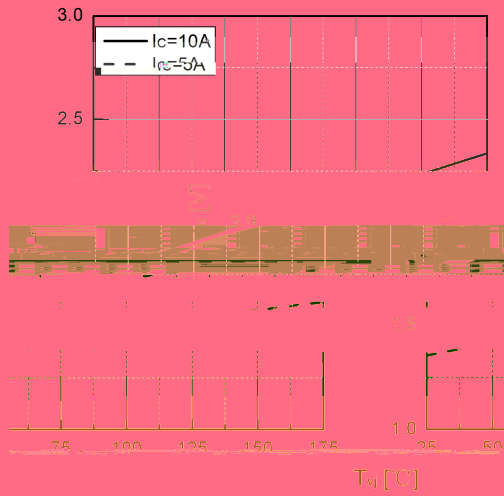


Fig 7. Typical CEsat as a function of Tvj

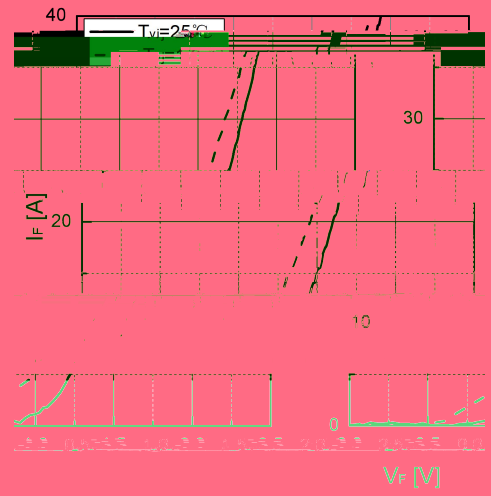


Fig 8. Typical IF as a function of VF

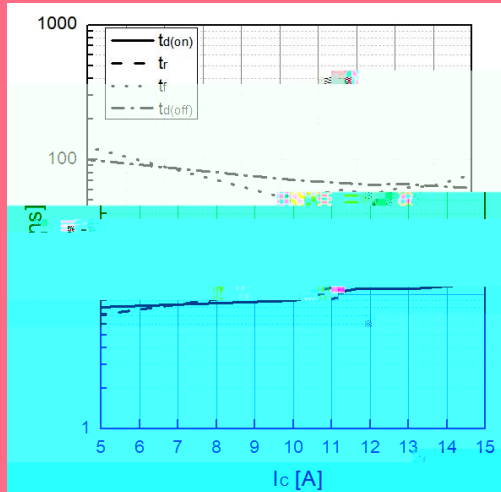


Fig 9. Typical switching time as a function of Ic

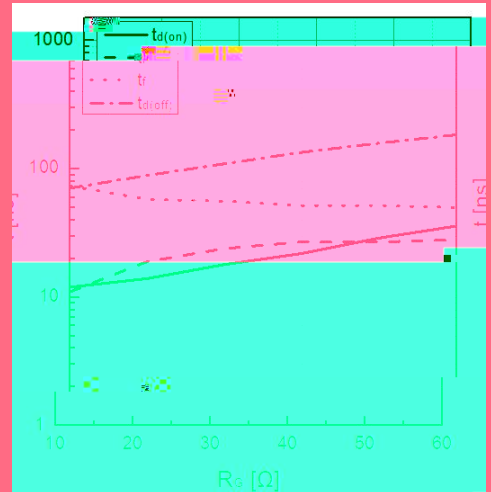


Fig 10. Typical switching times as a function of Rg

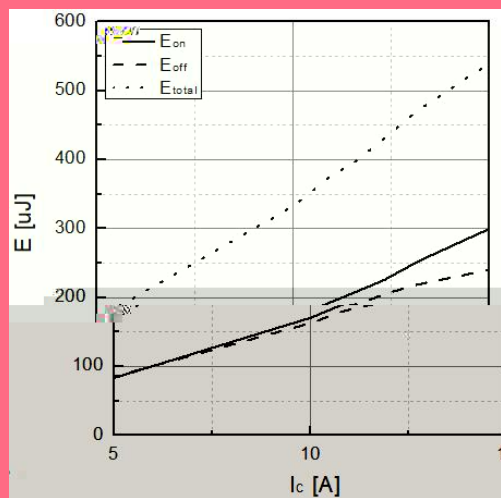


Fig 11. Typical switching energy losses as a function of Ic

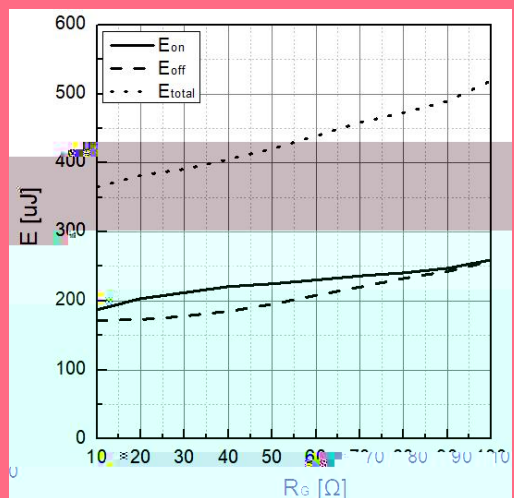
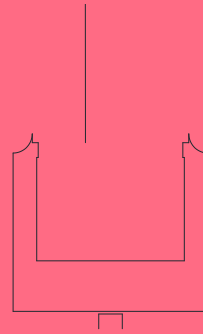
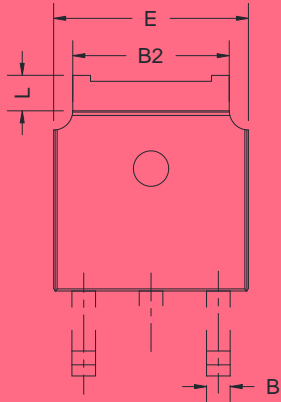


Fig 12. Typical switching energy losses as a function of Rg







Date	Revision	Changes
2023-12-23	1.0	Initial release
2025-02-06	Rev 1.1	Update
2025-04-08	Rev 1.2	Character Update