

IGBT Discrete

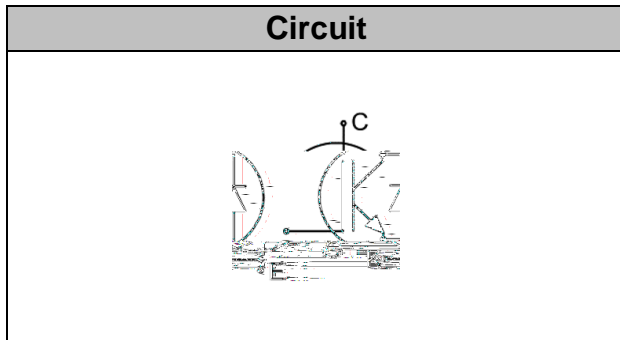
V_{CE}	650	V
I_C	75	A
$V_{CE(SAT)} I_C=75A$	1.45	V

Applications

- Resonant converters
- Uninterruptible power supplies
- Welding converters
- Mid to high range switching frequency converters

Features

- High speed smooth switching device for hard & soft switching
- Maximum junction temperature 175
- Positive temperature coefficient
- High ruggedness, temperature stable



Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Emitter Breakdown Voltage	V_{CE}	650	V
DC Collector Current, limited by T_{jmax} $T_C=25^\circ C$ value limited by bondwire $T_C=100^\circ C$	I_C	85 80	A
Diode Forward Current, limited by T_{jmax} $T_C=25^\circ C$ value limited by bondwire $T_C=100^\circ C$	I_F	85 80	A
Continuous Gate-Emitter Voltage	V_{GE}	± 20	V
Transient Gate-Emitter Voltage ($t_p \leq 10\mu s, D < 0.010$)	V_{GE}	± 30	V
Turn off Safe Operating Area $V_{CE} = 650V,$ T_j		300	A
Pulsed Collector Current, $V_{GE}=15V,$ t_p limited by T_{jmax}	I_{CM}	300	A
Diode Pulsed Current, t_p limited by T_{jmax}	I_{Fpuls}	300	A
Power Dissipation , $T_j=175^\circ C, T_C=25^\circ C$	P_{tot}	428	W



DGZC75N65CTS2A



Switching Characteristic, Inductive Load



Electrical Characteristics of the DIODE

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static						
Diode Forward Voltage	V_F	$I_F=75A$ $T_j=25^{\circ}C$, $T_j=175^{\circ}C$		1.70 2.60	1.90	V
Diode Capacitive Charge	Q_C	$V_R=400V$, $T_j=25^{\circ}C$		135		nC
Diode Capacitance	C	$f=1MHz$ $V_R=0V$, $V_R=200V$ $V_R=400V$		2453 247 243		pF

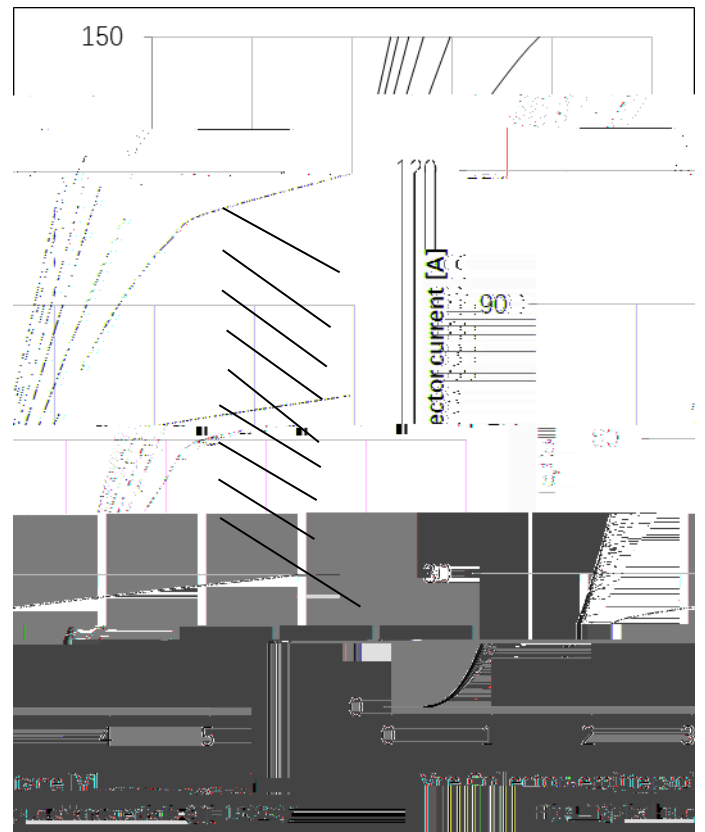
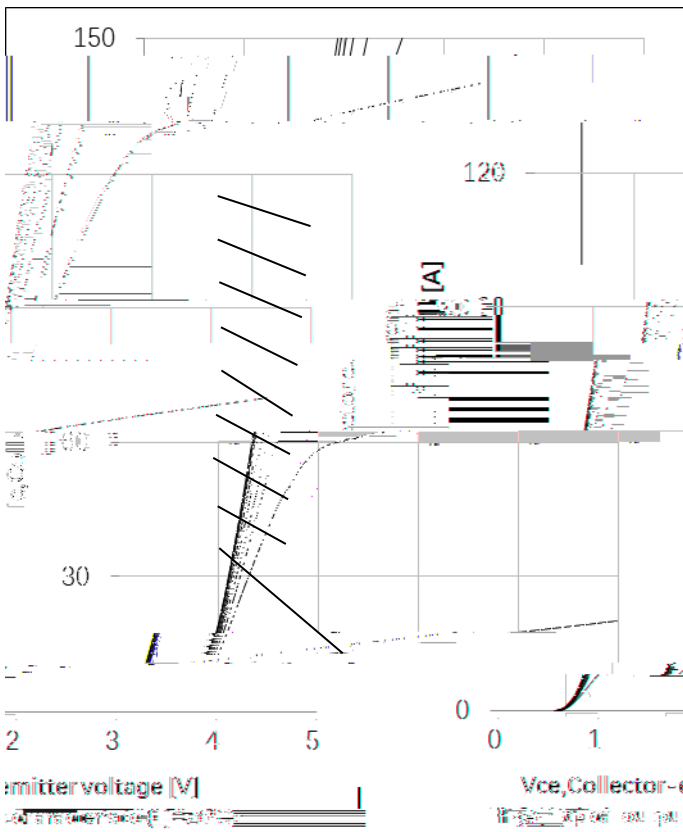
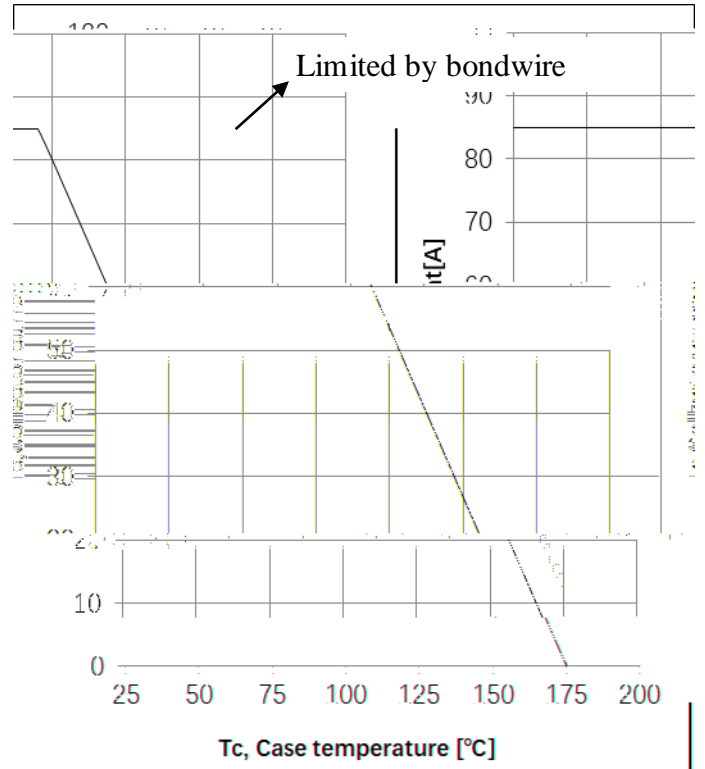
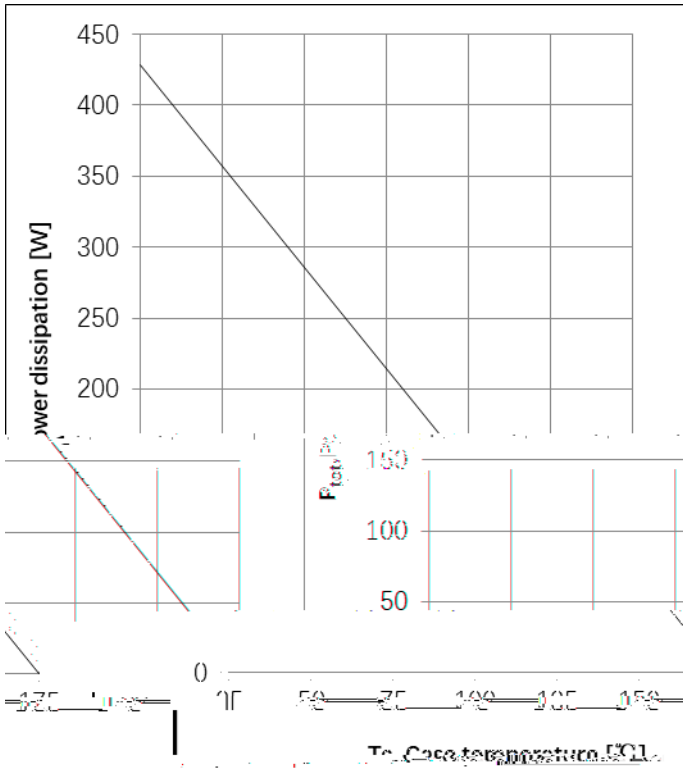
Thermal Resistance

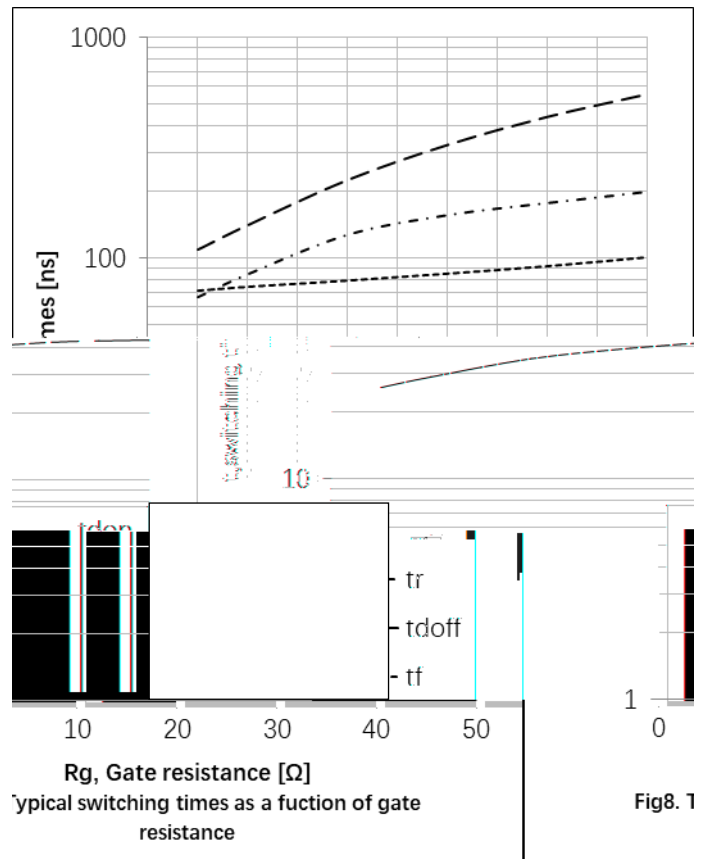
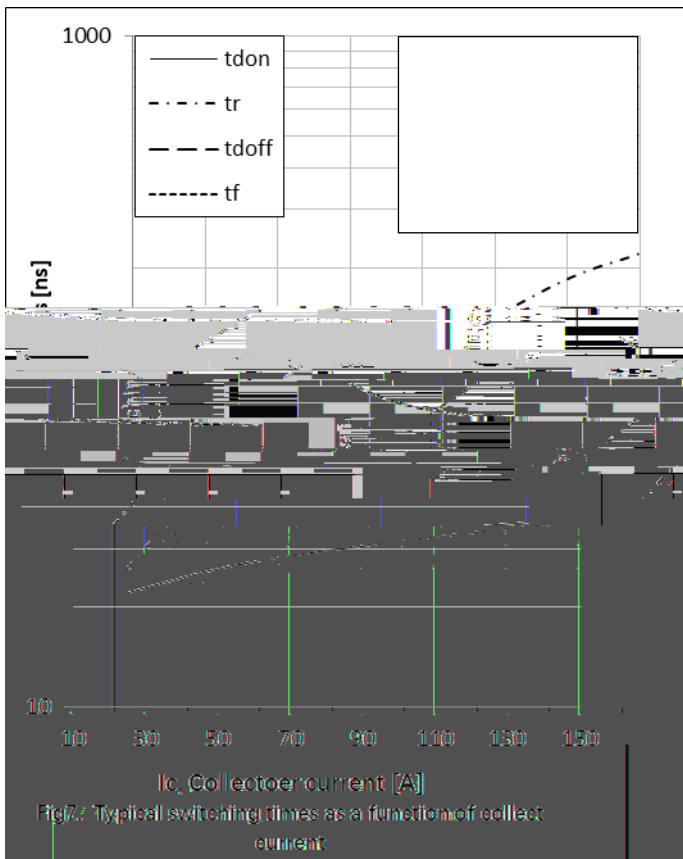
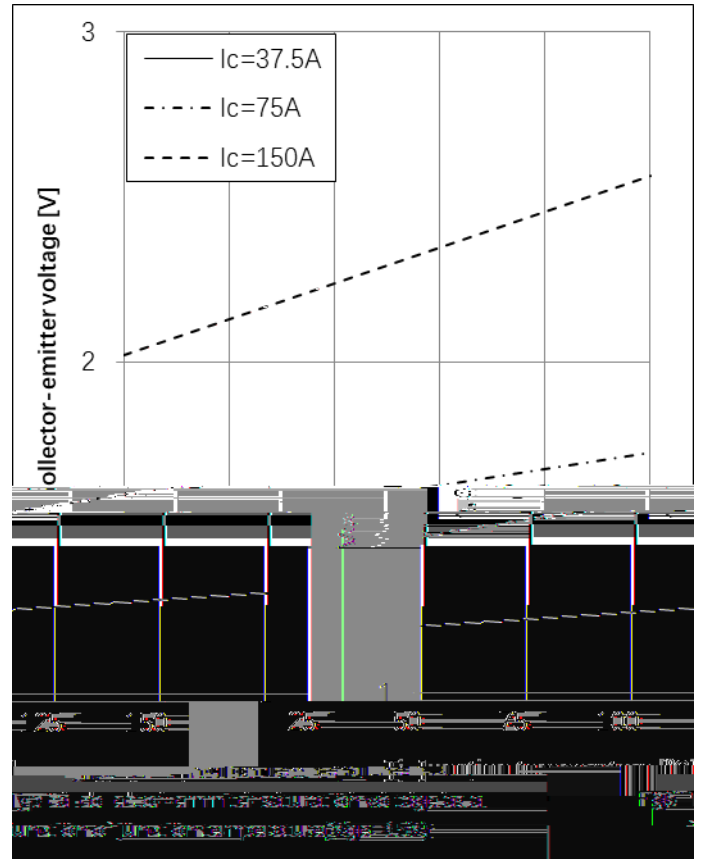
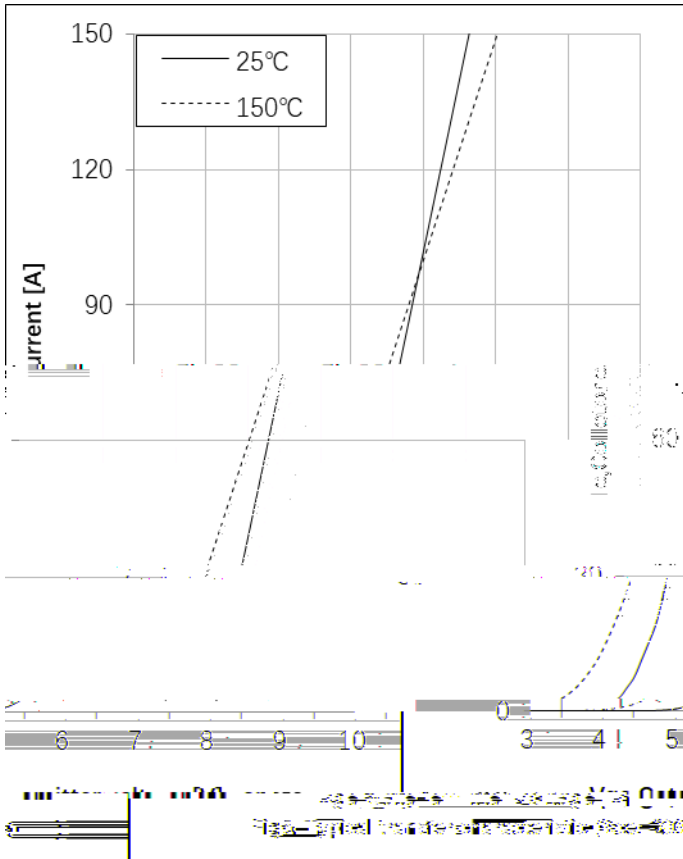
Parameter	Symbol	Max. Value	Unit
IGBT Thermal Resistance, Junction - Case	$R_{th(j-c)}$	0.35	K/W
Diode Thermal Resistance, Junction - Case	$R_{th(j-c)}$	0.50	K/W
Thermal Resistance, Junction - Ambient	$R_{th(j-a)}$	40	K/W



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L M
I C HN







DGZC75N65CTS2A

L M
I CHN

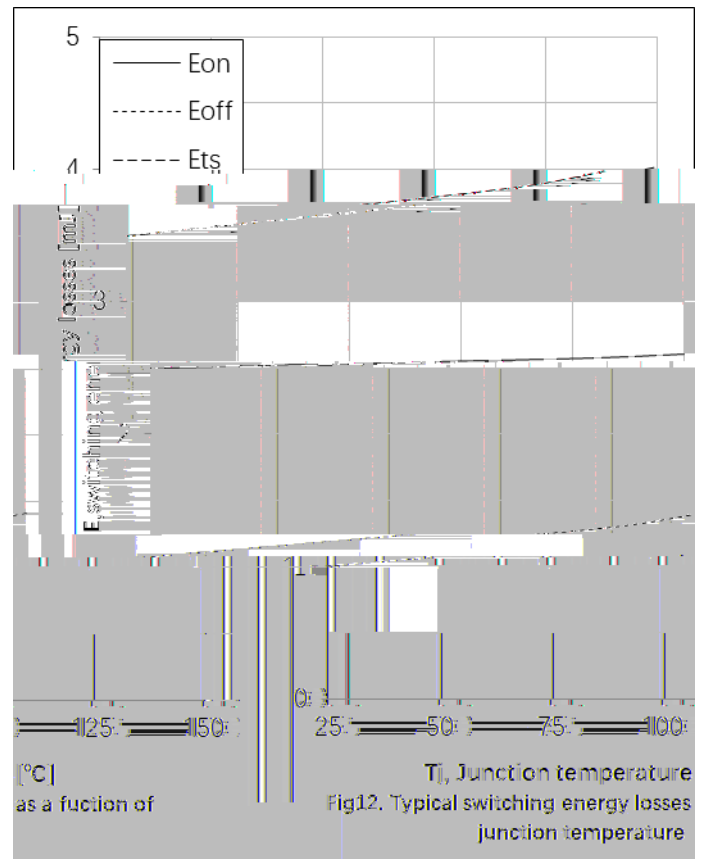
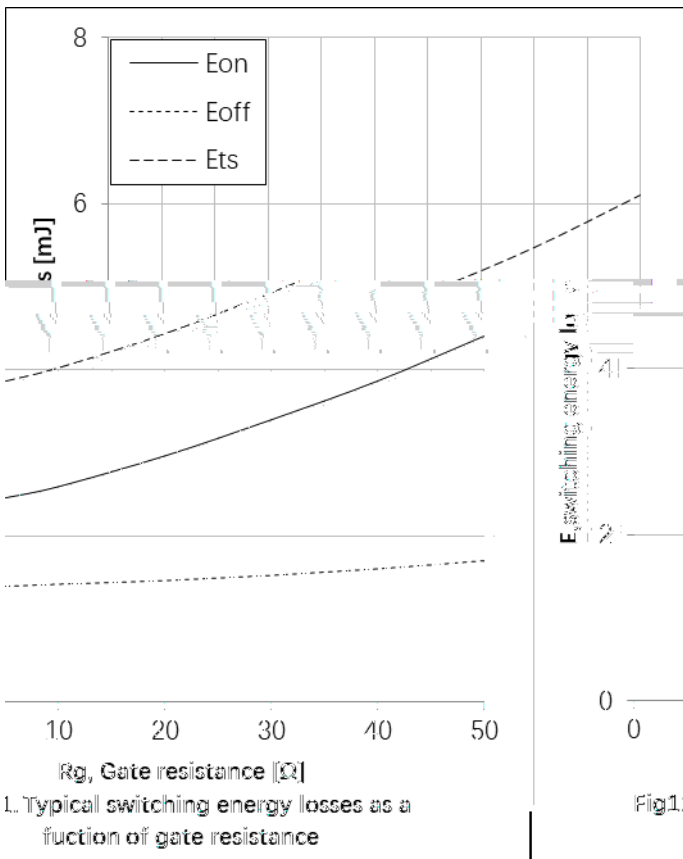
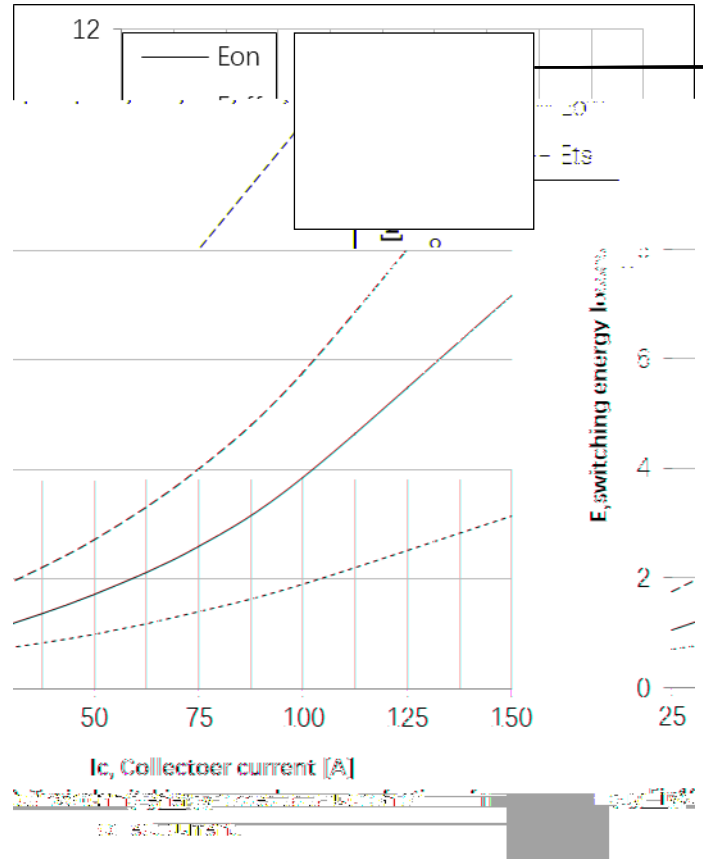
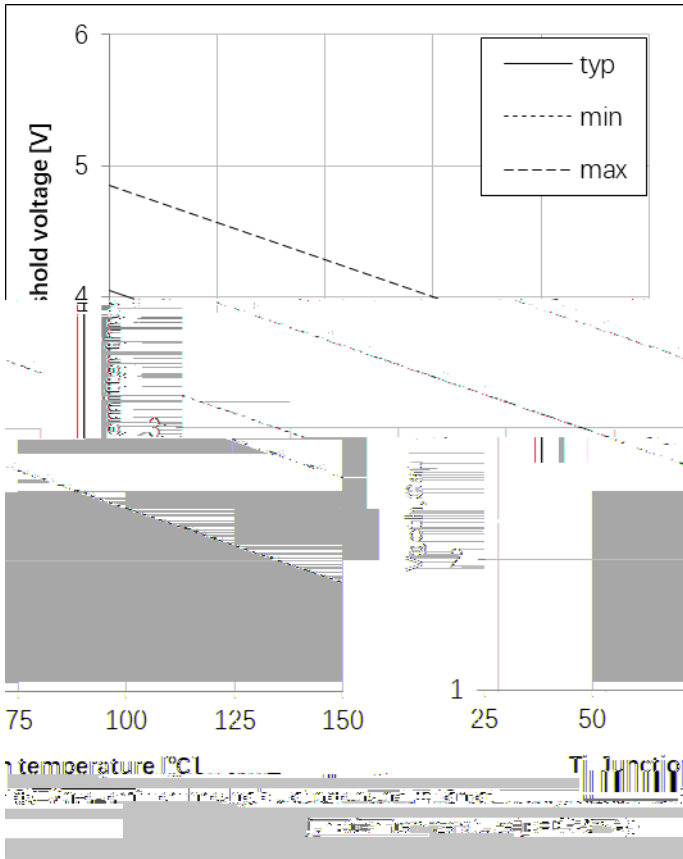


Fig11. Typical switching energy losses as a function of gate resistance

Fig11

Fig12. Typical switching energy losses as a function of junction temperature

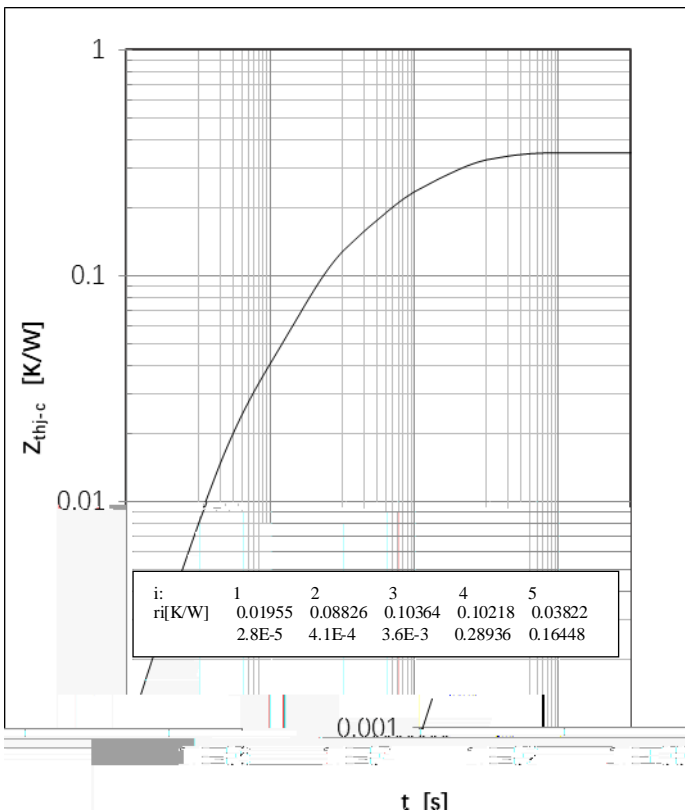
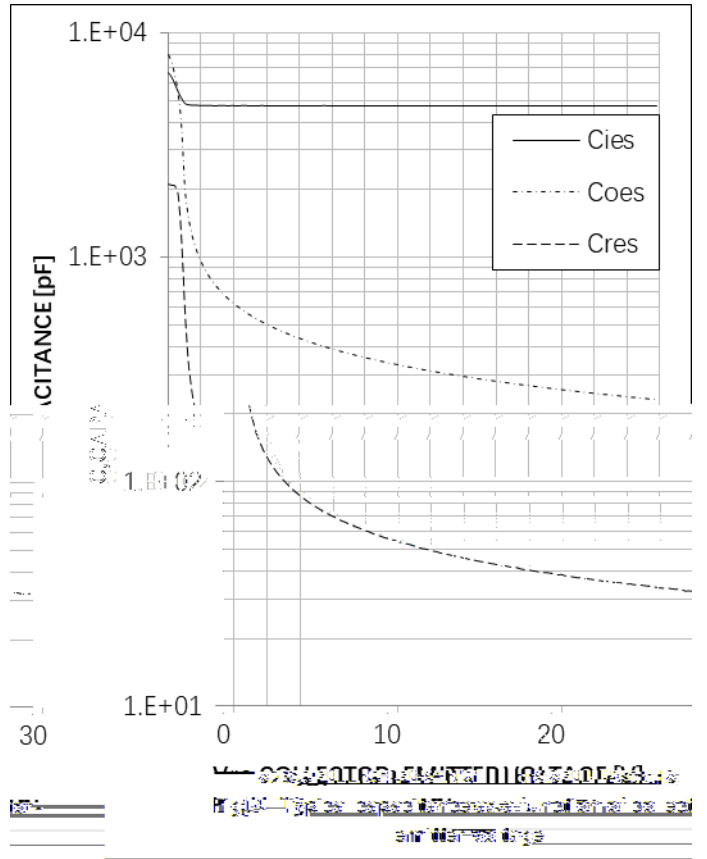
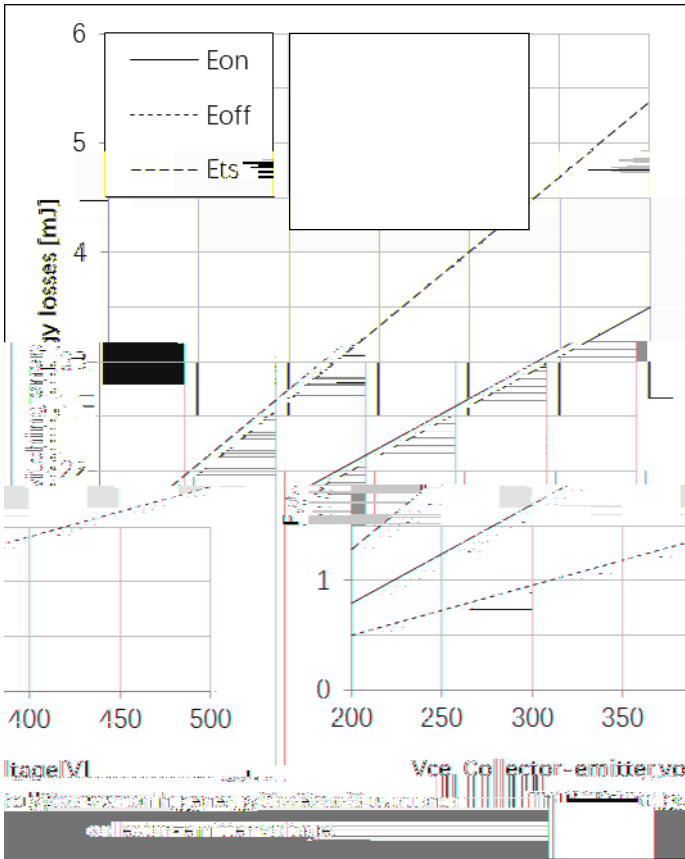


Fig 15. IGBT Transient Thermal Impedance

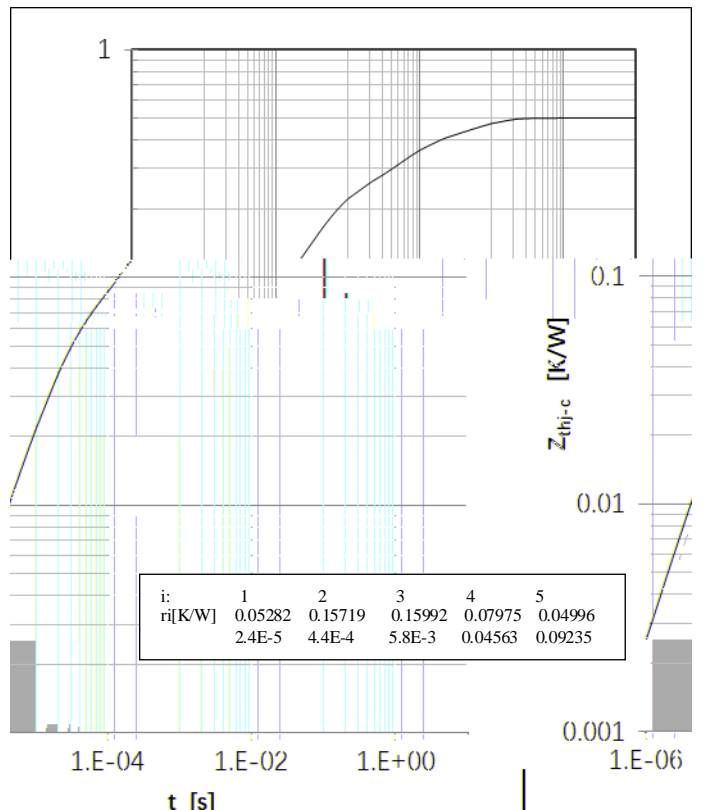
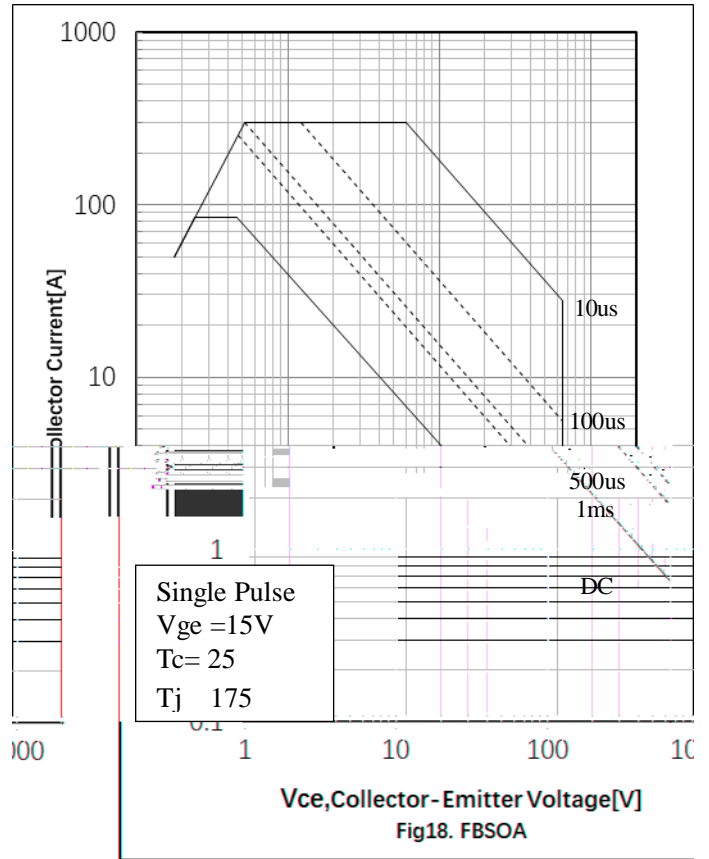
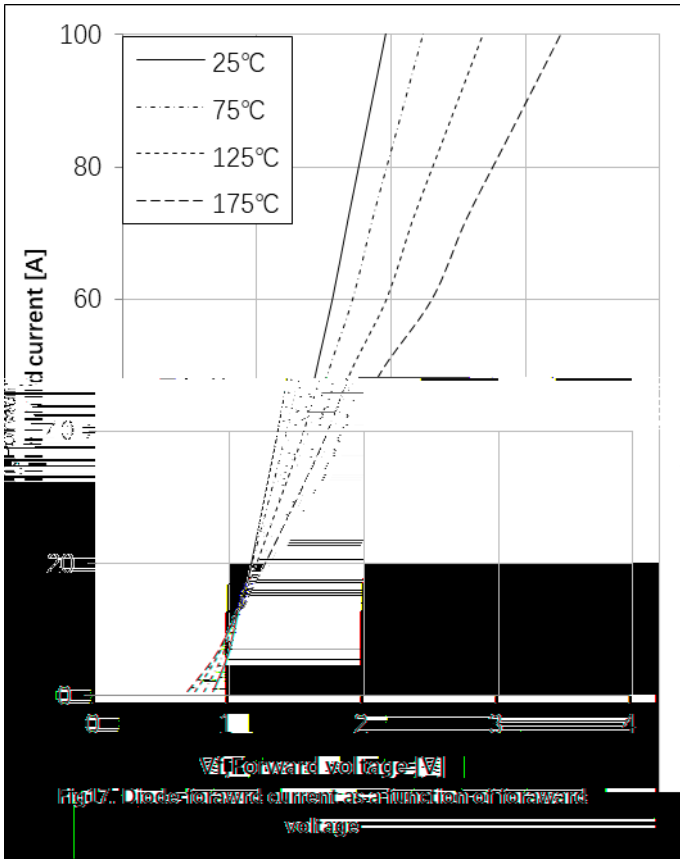


Fig 16. Diode Transient Thermal Impedance





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