Absolute Maximum Ratings

Electrical Characteristics T_{vj}=25℃, unless otherwise noted

Parameter	Symbol	Test condition	Min.	Typ.	Max.	Unit
OFF						
Collector Emitter Breakdown Voltage	BV_{CES}	V_{GE} = 0V, I_C = 1mA	1350	--	--	V
Zero Gate Voltage Collector Current	I_{CES}	V_{CE} = 1350V, V_{GE} = 0V	--	--	1	mA
Gate Emitter Leakage Current	I_{GES}	V_{CE} = 0V, V_{GE} = 25V	--	--	500	nA
Integrated Gate Resistor	$R_{G(int)}$	f = 1MHz, open Collector	--	5.3	--	
ON						
Gate Emitter Threshold Voltage	$V_{GE(TH)}$	V_{GE} = V_{CE}, I_C = 30mA	5.0	6.5	8.0	V
Collector Emitter Saturation Voltage	$V_{CE(SAT)}$	V_{GE} = 15V, I_C = 30A, T_{vj} = 25	--	1.80	2.20	V
		V_{GE} = 15V, I_C = 30A, T_{vj} = 125	--	2.12	--	
		V_{GE} = 15V, I_C = 30A, T_{vj} = 175	--	2.35	--	
Diode Forward Voltage	V_{FM}	I_F = 30A, T_{vj} = 25	--	2.37	--	V
		I_F = 30A, T_{vj} = 125	--	2.61	--	
		I_F = 30A, T_{vj} = 175	--	2.78	--	
DYNAMIC						
Input Capacitance	C_{IES}	V_{CE} = 30V, V_{GE} = 0V f = 1MHz	--	3675	--	pF
Output Capacitance	C_{OES}		--	57	--	
Reverse Transfer Capacitance	C_{RES}		--	44	--	
Total Gate Charge	Q_g	V_{CC} = 600V, I_C = 30A V_{GE} = 15V	--	166	249	nC
Gate-Emitter Charge	Q_{ge}		--	23	34	
Gate-Collector Charge	Q_{gc}		--	71	106	

Electrical Characteristics T_{vj}=25℃, unless otherwise noted

Parameter	Symbol	Test condition	Min.	Typ.	Max.	Unit
SWITCHING (Note 2)						
Turn						

Device Characteristics

Fig. 1 IGBT Output Characteristics

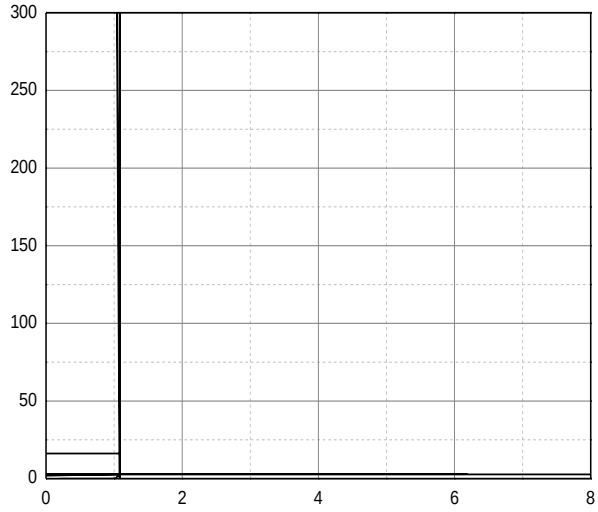


Fig. 2 IGBT Output Characteristics

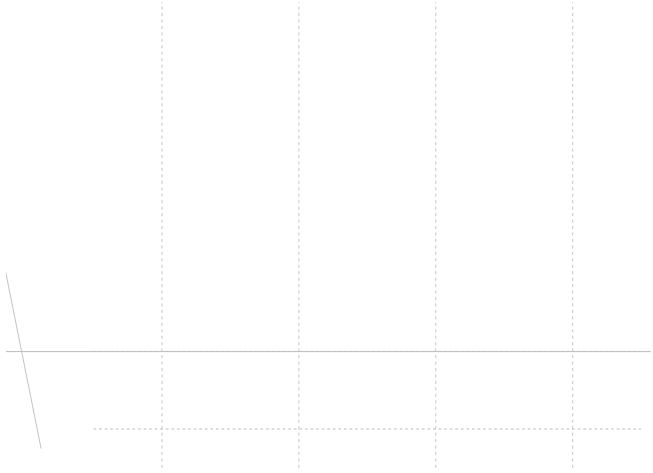
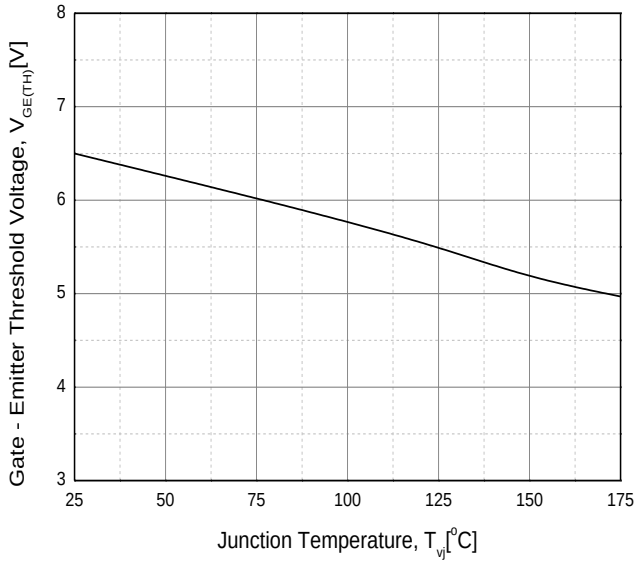


Fig. 3 IGBT Saturation Voltage vs. Junction Temperature

Fig. 4 IGBT Threshold Voltage vs. Junction Temperature



Device Characteristics

Fig. 5 IGBT Transfer Characteristic

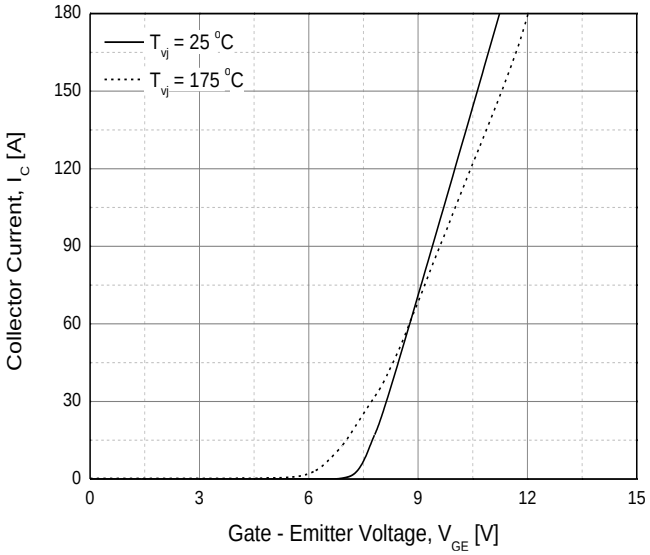


Fig. 6 IGBT Capacitance Characteristics

Fig. 7 Diode Conduction Characteristics

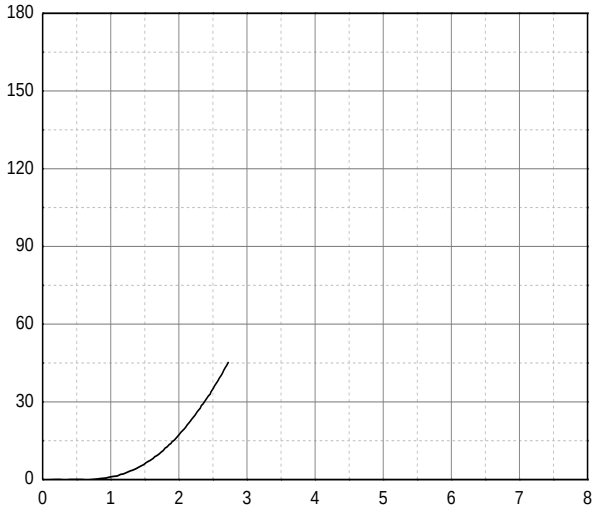


Fig. 8 Diode Forward Voltage vs. Junction Temperature

Device Characteristics

Fig. 9 Turn-off Time vs. Gate Resistor

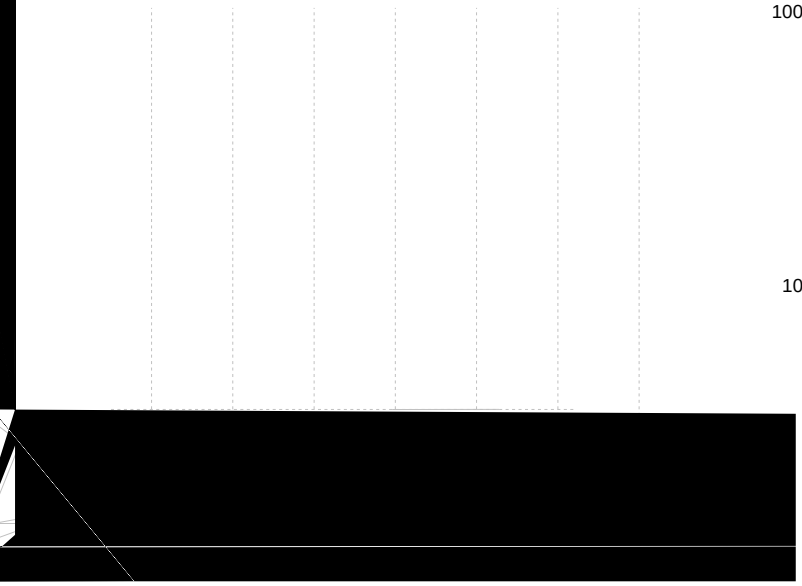


Fig. 10 Turn-off Time vs. Collector Current

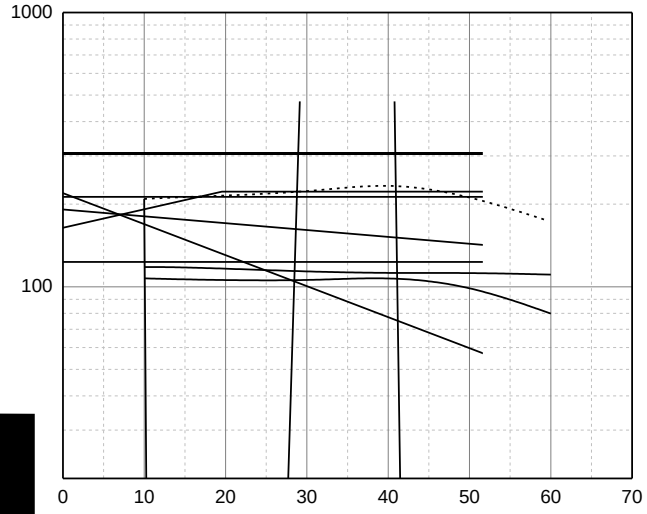


Fig. 11 Turn-off Loss vs. Gate Resistor

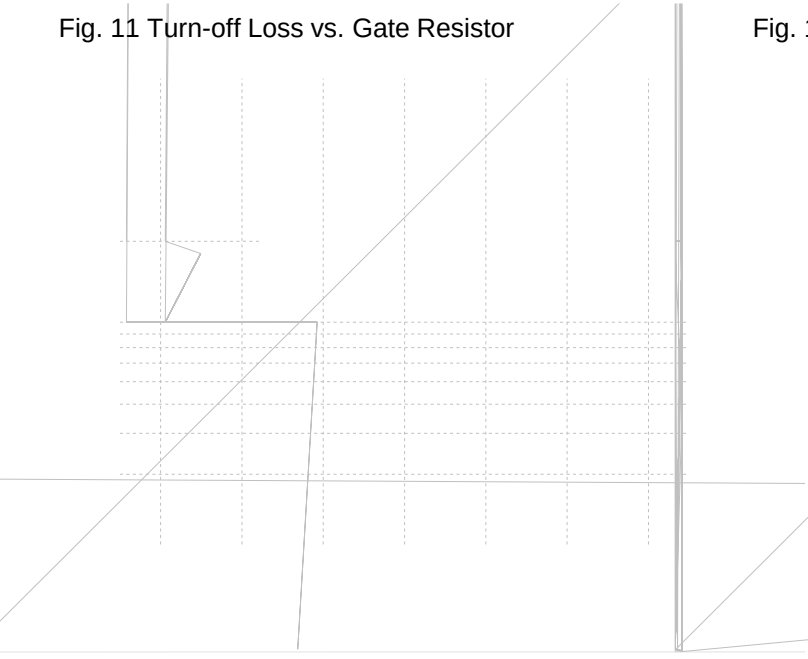
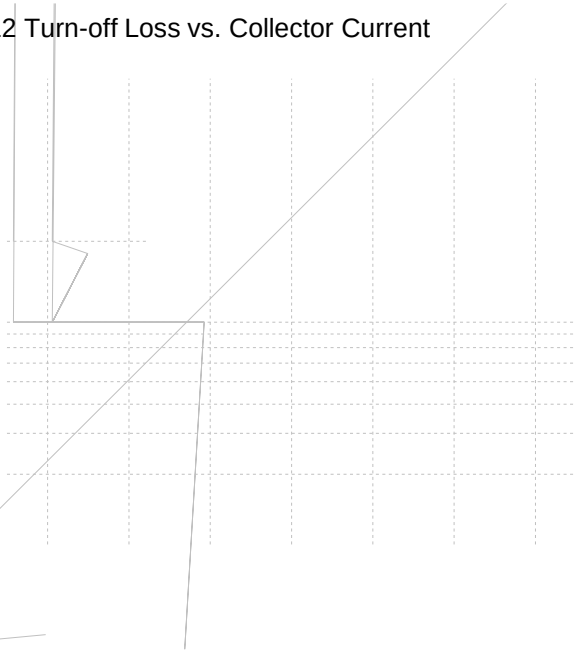


Fig. 12 Turn-off Loss vs. Collector Current



Device Characteristics

Fig. 13 Gate Charge Characteristics

Fig. 14 Transient Thermal Impedance

Fig. 15 Power Dissipation vs. Case Temperature

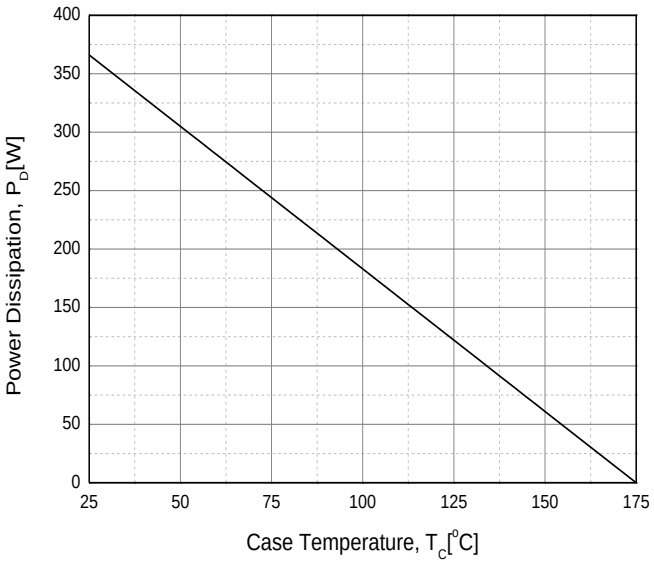
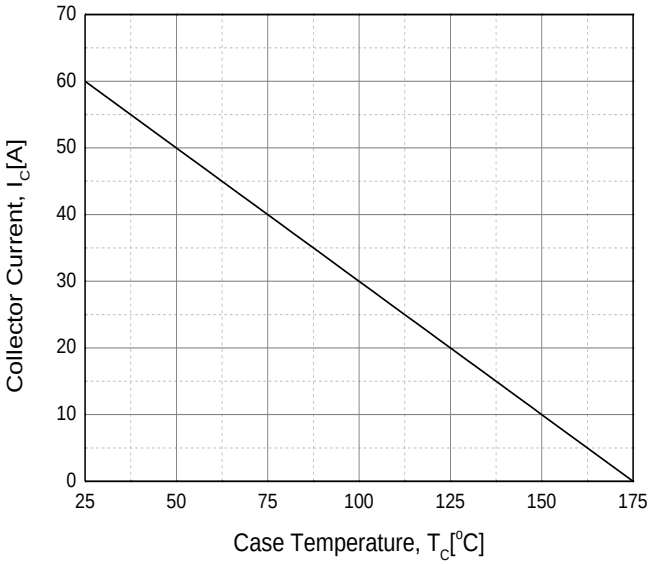


Fig. 16 Collector Current vs. Case Temperature



Device Characteristics

Fig. 17 SOA

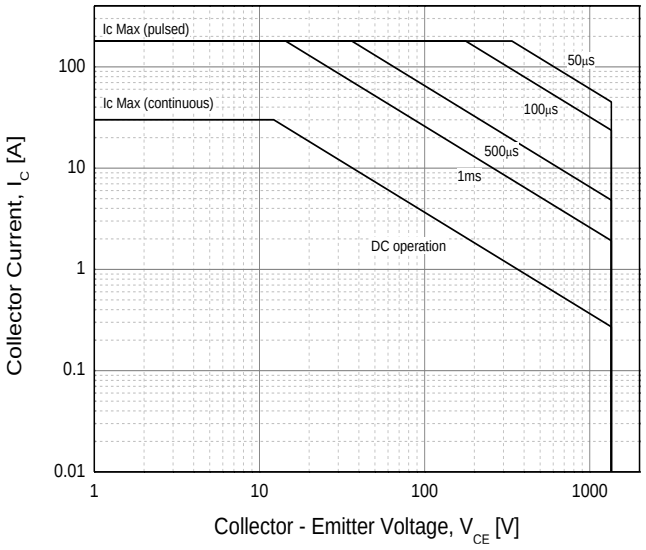


Fig. 18 RBSOA

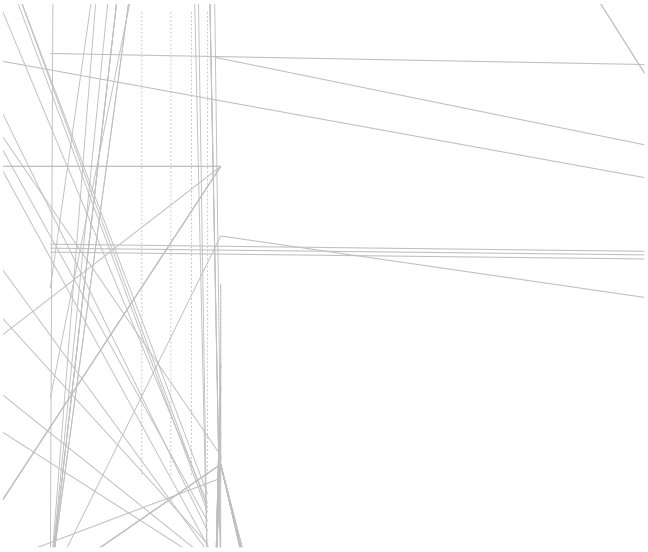


Fig. 19 Load Current vs. Frequency

Fig. 20 Load Current vs. Frequency

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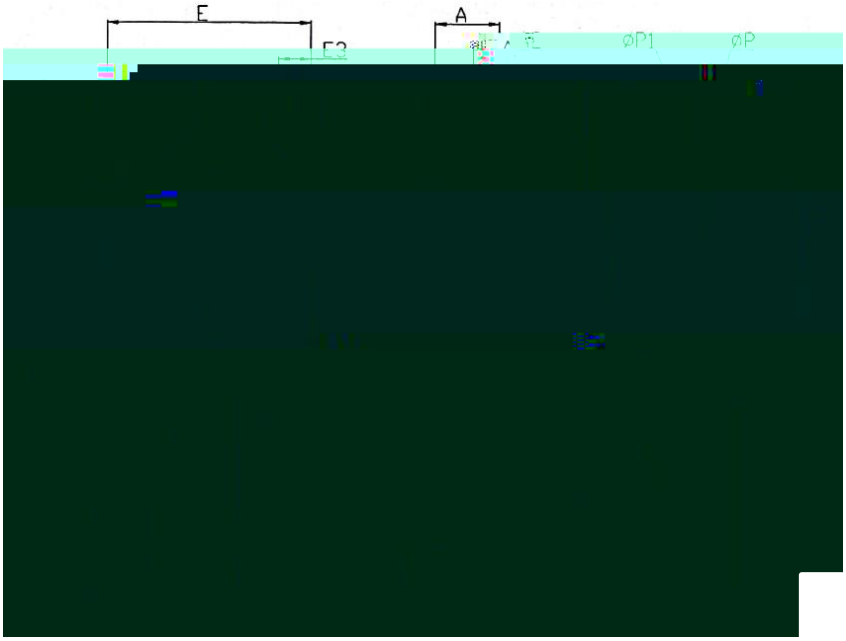

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