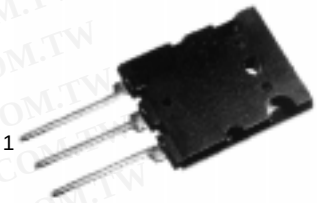
SGL60N90D

IGBT CO-PAK

FEATURES

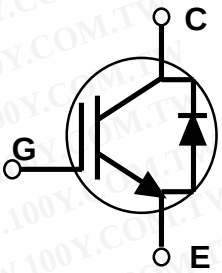
* High Speed Switching
* Low Saturation Voltage
  : V_{CE}(sat) = 2.7 V (at I_C=60A)
* High Input Impedance

TO-264



APPLICATIONS

* Home Appliance
  - Induction Heater
  - IH JAR
  - Micro Wave Oven



ABSOLUTE MAXIMUM RATINGS

Symbol	Characteristics		Rating	Unit
V_{CES}	Collector-Emitter Voltage		900	V
V_{GE}	Gate - Emitter Voltage		±25	V
I_C	Continuous Collector Current	T_C = 25°C	60	A
		T_C = 100°C	42	
$I_{CM\ (1)}$	Pulsed Collector Current		120	A
P_D	Maximum Power Dissipation	T_C = 25°C	200	W
		T_C = 100°C	120	
T_J	Operating Junction Temperature		-55 ~ 150	°C
T_{STG}	Storage Temperature Range			
T_L	Soldering maximum lead temperature (1/8" from case for 10 seconds)		300	°C

Notes: (1) Repetitive rating : Pulse with limited by max. junction temperature

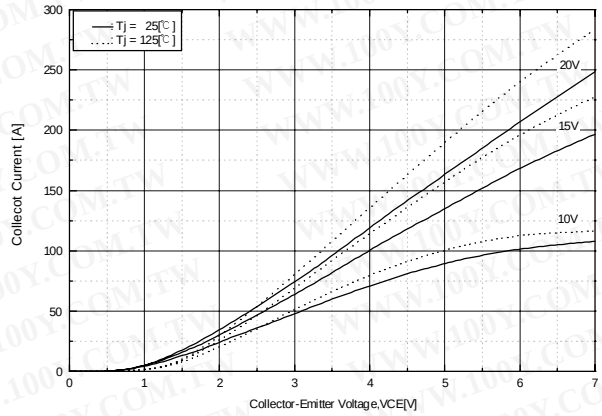
FAIRCHILD SEMICONDUCTOR

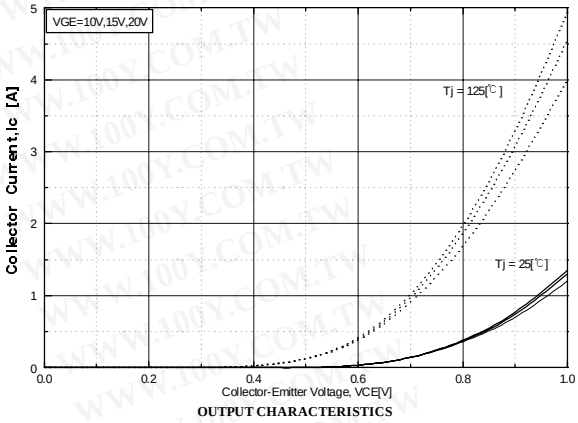
ELECTRICAL CHARACTERISTICS (T_C=25°C)

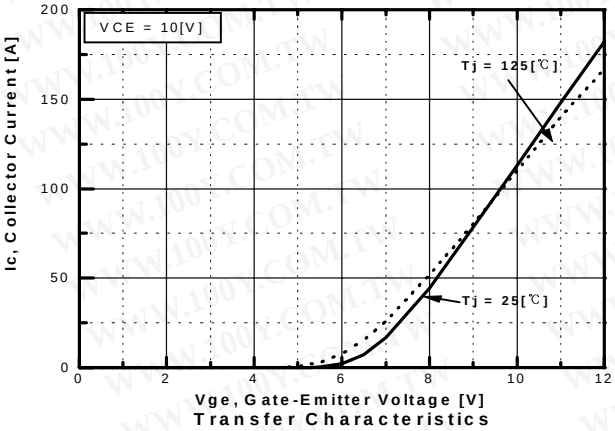
Symbol	Characteristics	Test Conditions	Min	Typ	Max	Units
BV_{CES}	C - E Breakdown Voltage	V_{GE} = 0V , I_C = 1mA	900	-	-	V
$V_{GE(th)}$	G - E threshold voltage	I_C =60mA , V_{CE} = 10V	4.5	-	7.5	V
I_{CES}	Collector cutoff Current	V_{CE} = V_{CES} , V_{GE} = 0V	-	-	1.0	mA
I_{GES}	G - E leakage Current	V_{GE} = V_{GES} , V_{CE} = 0V	-	-	500	nA
V_{CE}(sat)	Collector to Emitter saturation voltage	V_{GE} = 15V, I_C =60A	-	2.7	3.5	V
Cies	Input capacitance	V_{GE} = 0V , f = 1MHz	-	4500	-	pF
Coes	Output capacitance	V_{CE} = 10V	-	800	-	pF
Cres	Reverse transfer capacitance		-	200	-	pF
ton	Turn on time	V_{CC} = 600V , I_C = 60A	-	350	800	ns
tr	Rise time	V_{GE} = 15V	-	250	600	ns
toff	Turn off time	R_G = 51Ω	-	500	1000	ns
tf	Fall time	Resistive load	-	250	400	ns
V_{EC}	Emitter-Collector Voltage	I_E = 15A	-	1.5	2.0	V
trr	Reverse recovery time	I_E = 15A, die/dt = -100A/μs	-	0.7	2.0	μs

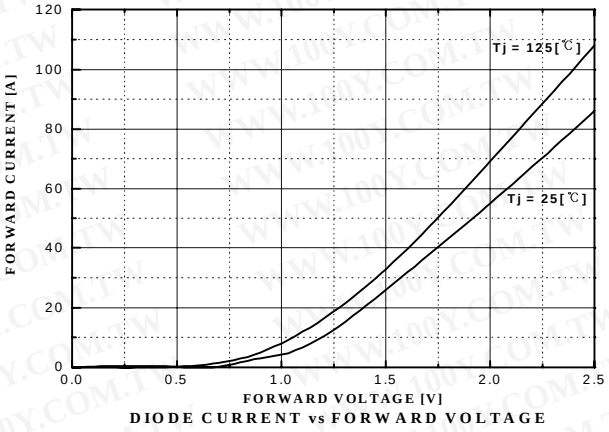
THERMAL RESISTANCE

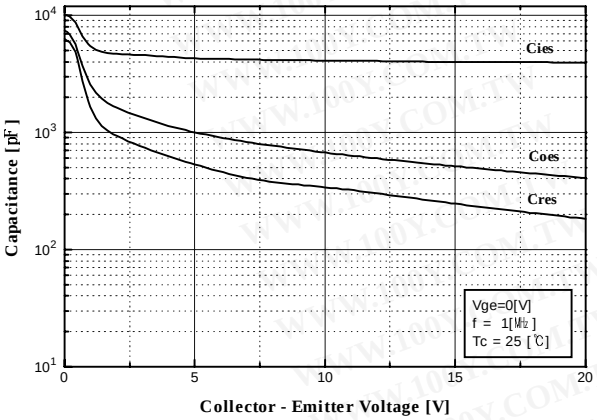
Symbol	Characteristics	Min	Typ	Max	Units
$R_{\theta JC}$	Junction-to-Case : IGBT	-	-	0.625	°C/W
$R_{\theta JC}$	Junction-to-Case : Diode	-	-	4.0	°C/W

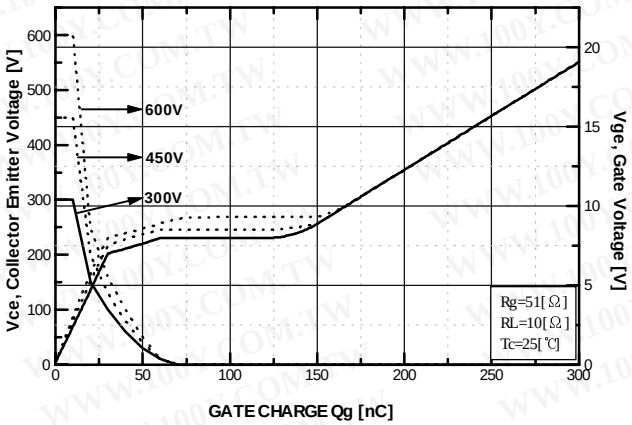


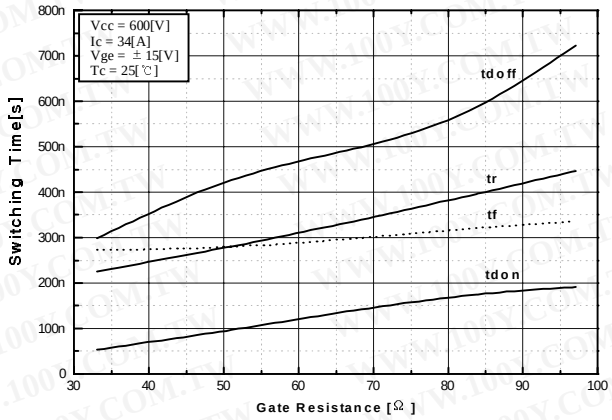


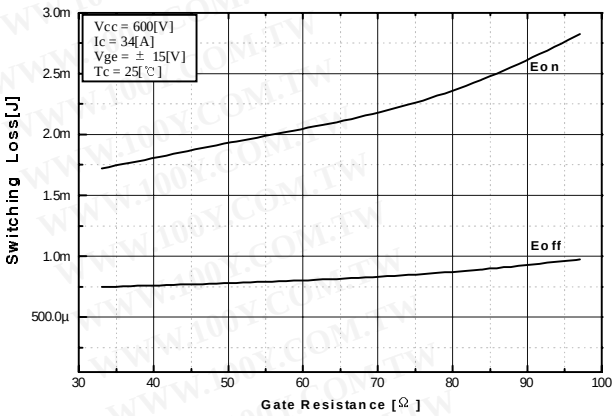


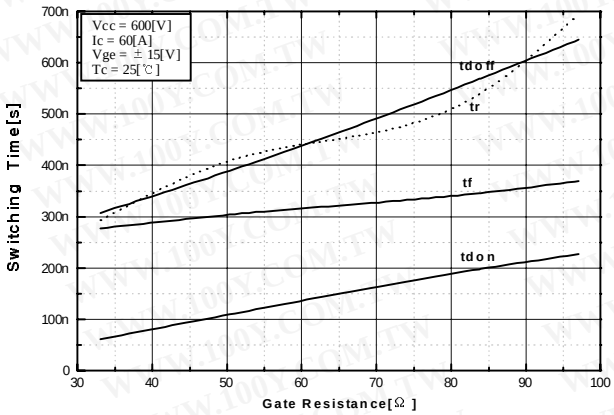


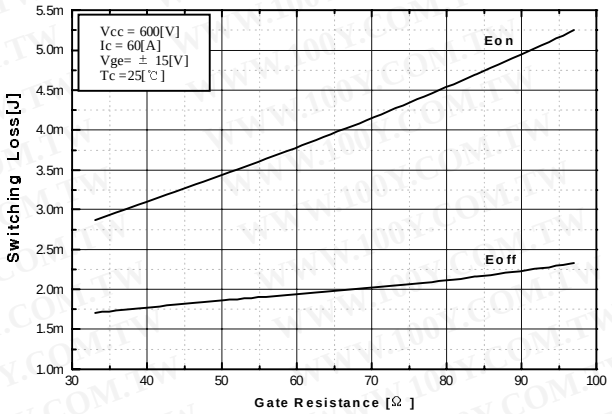


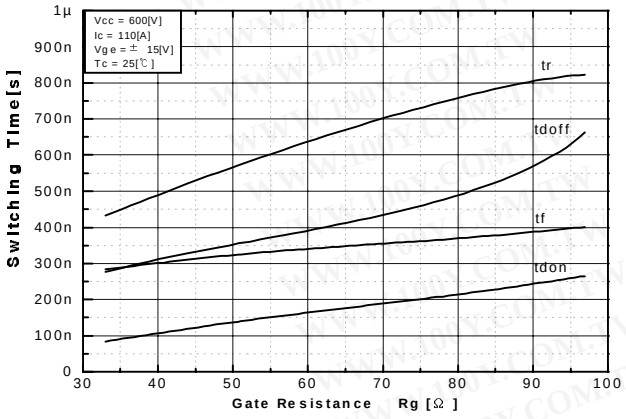


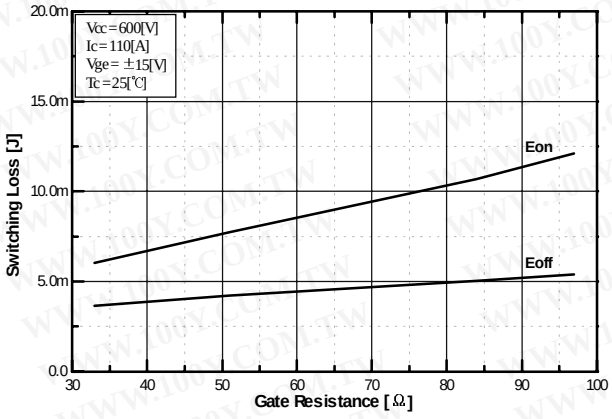


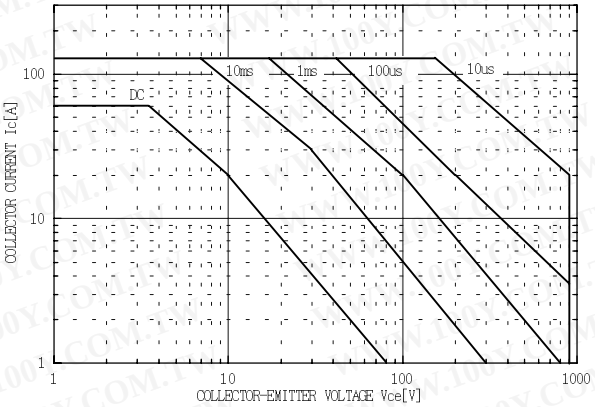




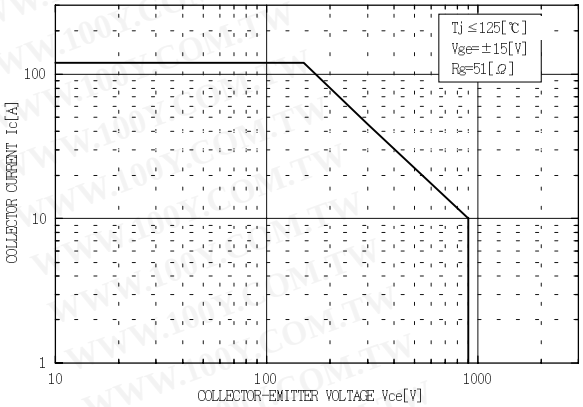








SAFE OPERATING AREA



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