



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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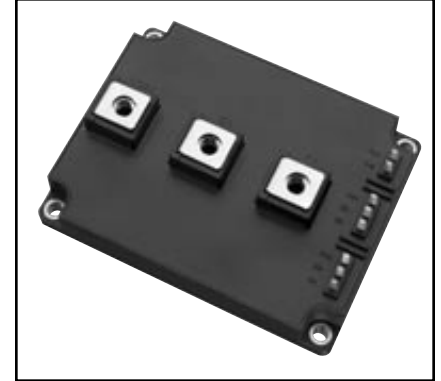
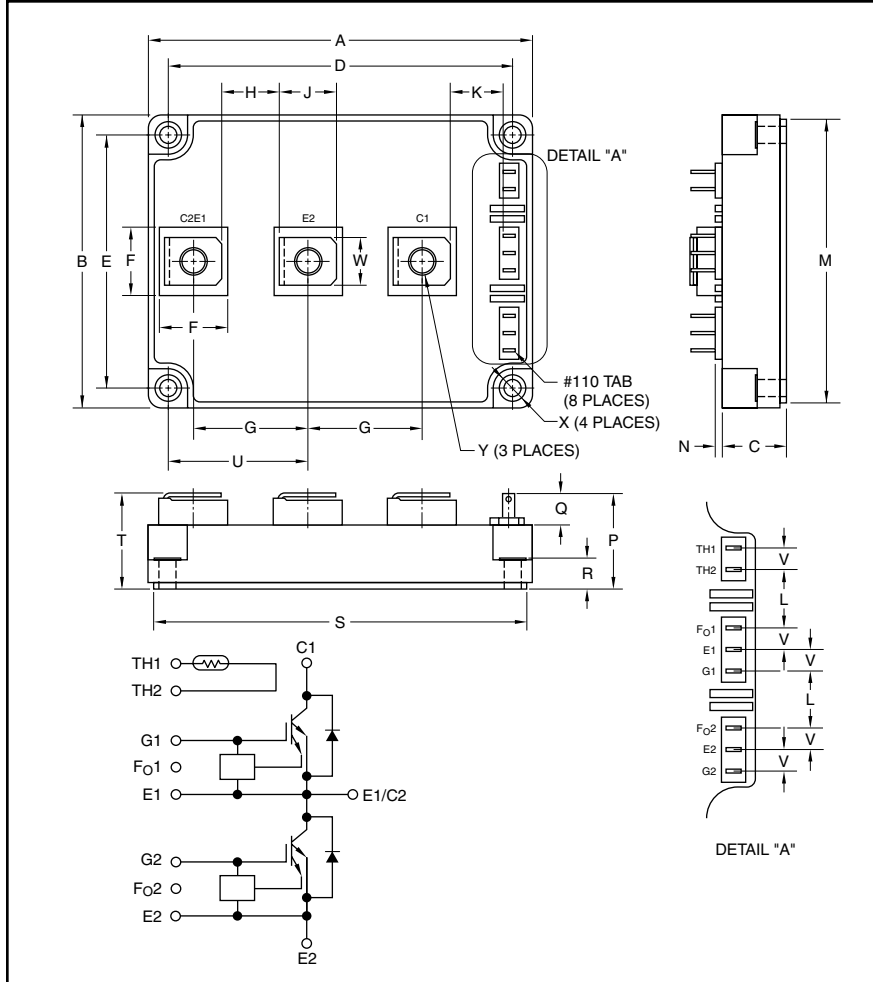
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Dual IGBTMOD™ Compact IGBT Series Module 400 Amperes/1700 Volts



Description:

Powerex Dual IGBTMOD™ Compact IGBT Series Modules are designed for use in switching applications. Each module consists of two IGBT Transistors in a half-bridge configuration, with each transistor having a reverse-connected super-fast recovery free-wheel diode. All components and interconnects are isolated from the heat sinking baseplate, offering simplified system assembly and thermal management.

Features:

- Over-Current and Over-Temperature Protection
- Low $V_{CE(sat)}$
- Isolated Baseplate for Easy Heat Sinking

Applications:

- AC Motor Control
- Motion/Servo Control
- UPS
- Welding Power Supplies
- Laser Power Supplies

Ordering Information:

Example: Select the complete part number from the table below -i.e. MG400V2YS60A is a 1700V (V_{CES}), 400 Ampere Dual IGBTMOD™ Compact IGBT Series Module.

Type	Current Rating Amperes	V_{CES} Volts (x 10)
MG	400	170

Outline Drawing and Circuit Diagram

Dimensions	Inches	Millimeters
A	4.92±0.04	125.0±1.0
B	3.78±0.04	96.0±1.0
C	0.84±0.04	21.3±1.0
D	4.49±0.03	113.0±0.8
E	3.30±0.03	84.0±0.8
F	0.86±0.04	22.0±1.0
G	1.46±0.04	37.0±1.0
H	0.75±0.04	19.0±1.0
J	0.71±0.04	18.0±1.0
K	0.73±0.04	18.6±1.0
L	0.59±0.04	15.0±1.0
M	3.66±0.03	93.0±0.8

Dimensions	Inches	Millimeters
N	0.07±0.04	1.8±1.0
P	1.24±0.04	31.5±1.0
Q	0.40±0.03	10.2±0.8
R	0.34±0.03	8.7±0.8
S	4.92±0.04	125.0±1.0
T	1.24-0.01/+0.04	31.5+2.0/-0.8
U	1.81±0.04	46.0±1.0
V	0.22±0.04	5.6±1.0
W	0.63±0.03	16.0±0.8
X	0.21 Dia.	5.5 Dia.
Y	M8 Metric	M8



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MG400V2YS60A
Dual IGBTMOD™
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Absolute Maximum Ratings, $T_j = 25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbol	MG400V2YS60A	Units
Collector-Emitter Voltage	V_{CES}	1700	Volts
Gate-Emitter Voltage	V_{GES}	± 20	Volts
Collector Current (DC)	I_C	400	Amperes
Forward Current (DC)	I_F	400	Amperes
Collector Dissipation ($T_C = 25^\circ\text{C}$)	P_C	4300	Watts
Power Device Junction Temperature	T_j	-20 to 150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to 125	$^\circ\text{C}$
Mounting Torque, M5 Mounting Screws	—	27	in-lb
Mounting Torque, M8 Main Terminal Screws	—	88	in-lb
Module Weight (Typical)	—	680	Grams
Isolation Voltage, AC 1 minute, 60Hz Sinusoidal	V_{ISO}	4000	Volts

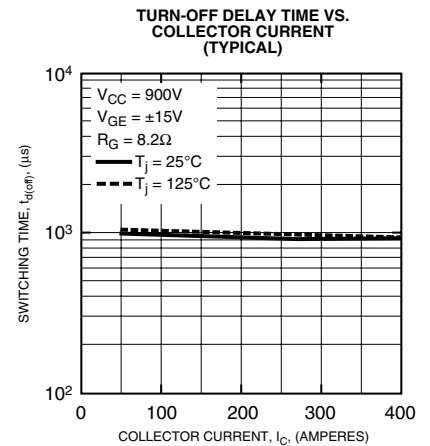
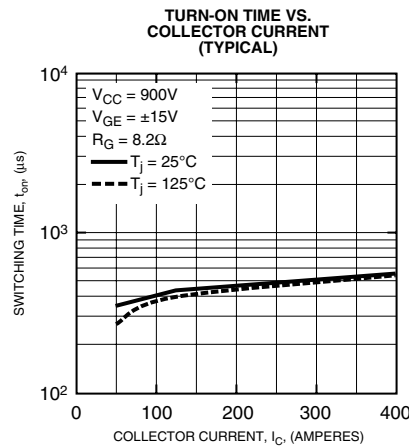
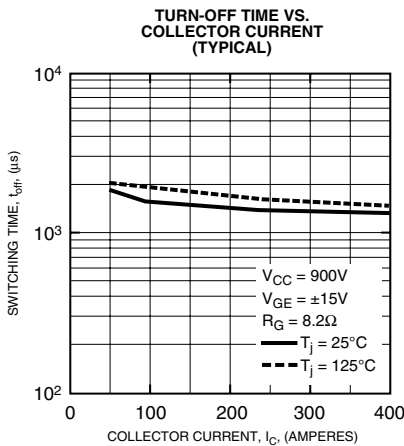
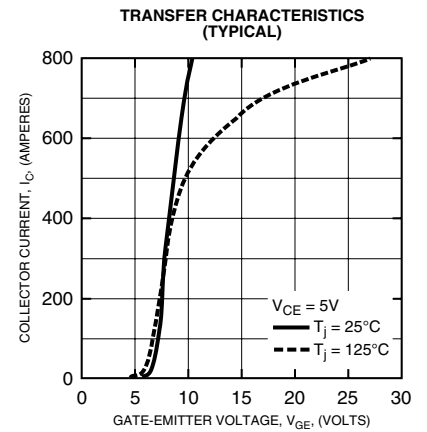
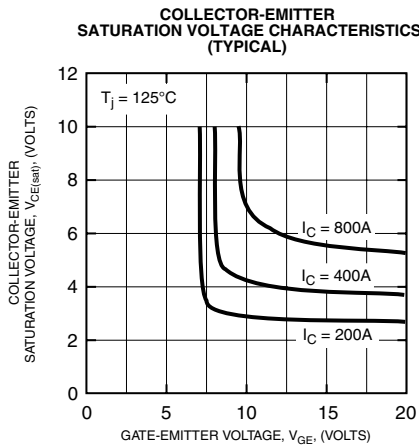
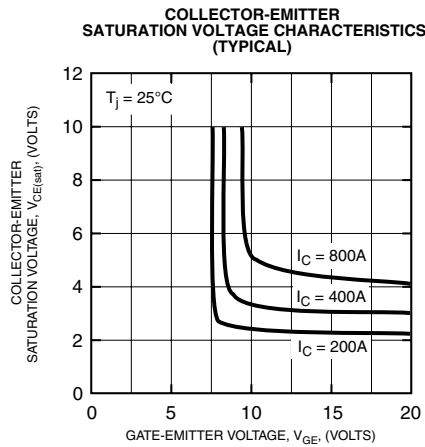
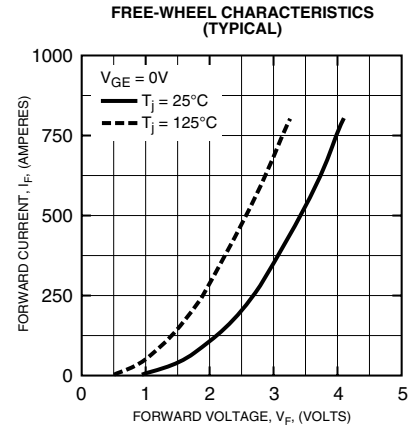
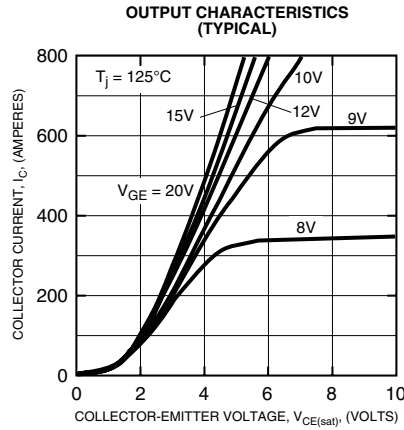
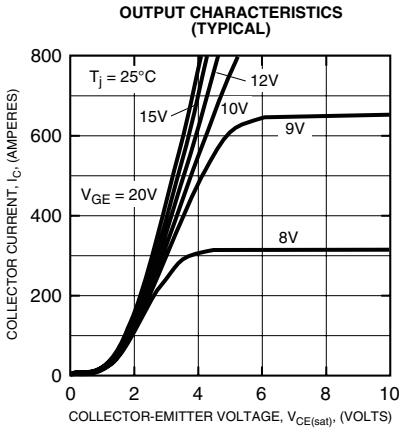
Electrical and Mechanical Characteristics, $T_j = 25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Gate Leakage Current	I_{GES}	$V_{GE} = \pm 20\text{V}, V_{CE} = 0\text{V}$	—	—	± 10	μA
Collector Cutoff Current	I_{CES}	$V_{CE} = 1700\text{V}, V_{GE} = 0\text{V}$	—	—	1.0	mA
Gate-Emitter Cutoff Voltage	$V_{GE(off)}$	$I_C = 400\text{mA}, V_{CE} = 5\text{V}$	4.5	5.5	6.5	Volts
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$V_{GE} = 15\text{V}, I_C = 400\text{A}, T_j = 25^\circ\text{C}$	—	3.0	3.4	Volts
		$V_{GE} = 15\text{V}, I_C = 400\text{A}, T_j = 125^\circ\text{C}$	—	3.8	4.2	Volts
Input Capacitance	C_{ies}	$V_{CE} = 10\text{V}, V_{GE} = 0\text{V}, f = 1\text{MHz}$	—	45000	—	pF
Gate-Emitter Voltage	V_{GE}		13.0	15.0	17.0	Volts
Gate Resistance	R_G		8.2	—	15.0	Ω
Inductive Load	$t_{d(on)}$		—	0.35	—	μs
Switching	t_r		—	0.2	—	μs
Times	t_{on}	$V_{CC} = 900\text{V}, I_C = 400\text{A},$	—	0.55	—	μs
	$t_{d(off)}$	$V_{GE} = \pm 15\text{V}, R_G = 8.2\Omega$	—	0.9	—	μs
	t_f		—	0.4	0.6	μs
	t_{off}		—	1.3	—	μs
Forward Voltage	V_F	$I_F = 400\text{A}, V_{GE} = 0\text{V}, T_j = 25^\circ\text{C}$	—	3.2	4.2	Volts
		$I_F = 400\text{A}, V_{GE} = 0\text{V}, T_j = 125^\circ\text{C}$	—	2.4	—	Volts
Reverse Recovery Time	t_{rr}	$I_F = 400\text{A}, V_{GE} = -15\text{V}, di/dt = 2000\text{A}/\mu\text{s}$	—	0.2	0.4	μs
Junction to Case Thermal Resistance	$R_{th(j-c)Q}$	IGBT (Per 1/2 Module)	—	—	0.029	$^\circ\text{C}/\text{Watt}$
	$R_{th(j-c)D}$	FWDi (Per 1/2 Module)	—	—	0.056	$^\circ\text{C}/\text{Watt}$
RTC Operating Current	I_{rtc}	$T_j = 25^\circ\text{C}$	800	—	—	Amperes



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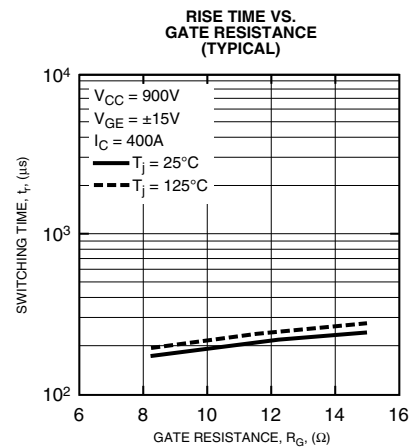
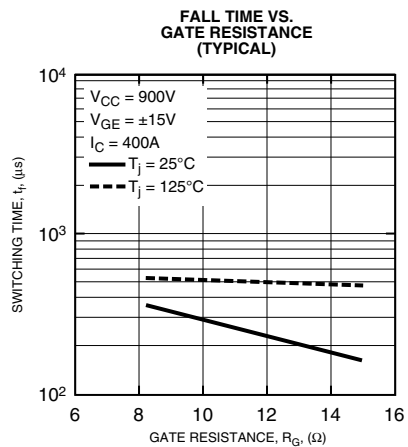
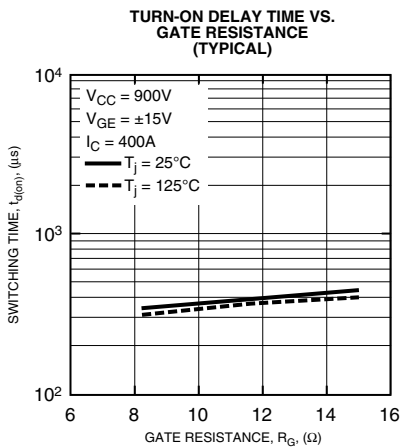
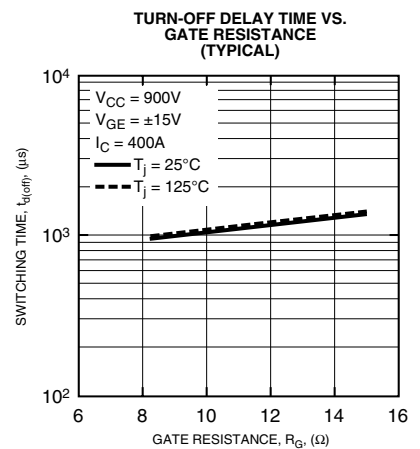
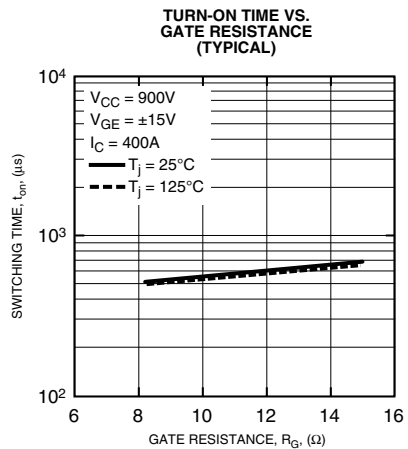
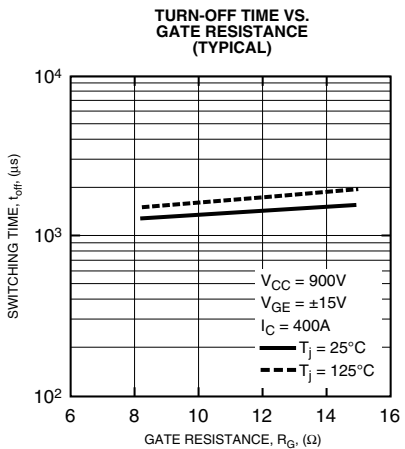
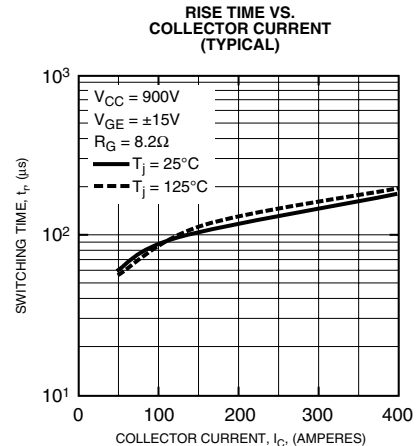
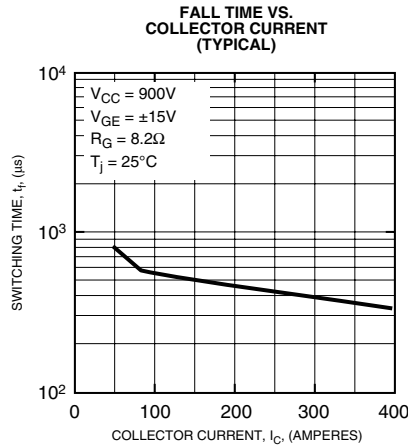
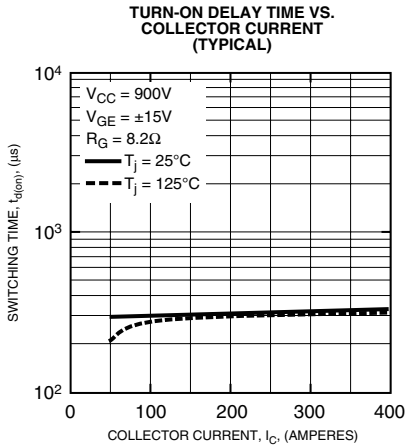
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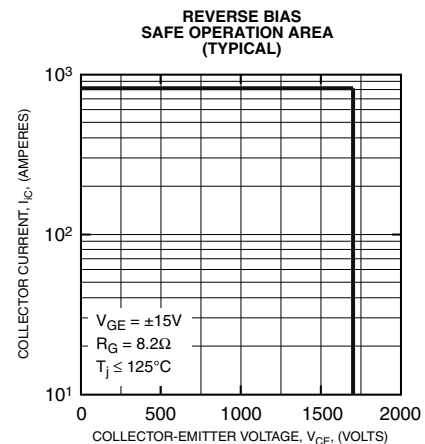
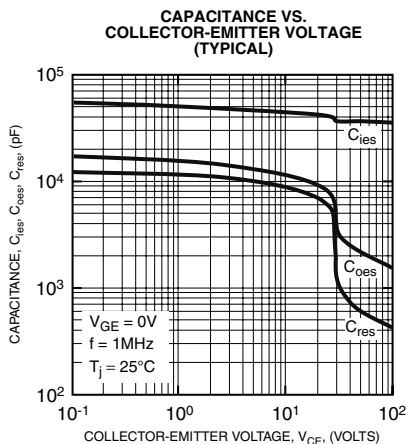
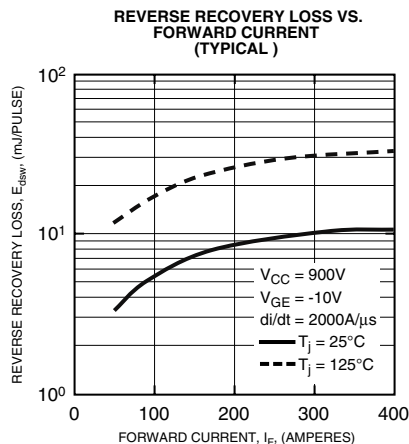
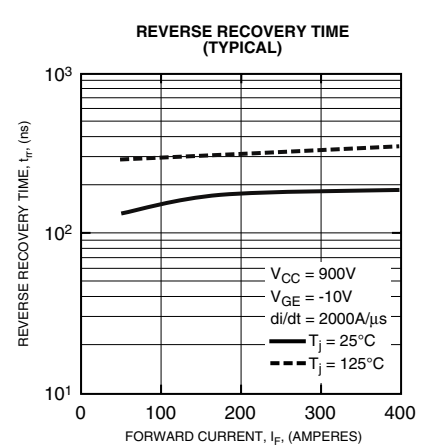
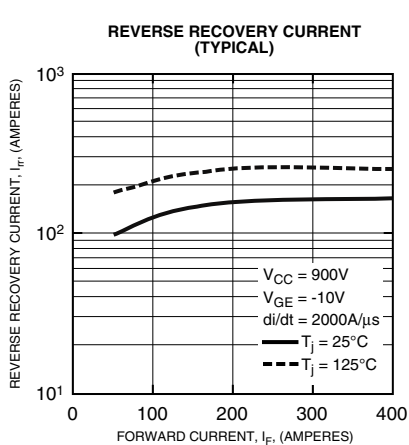
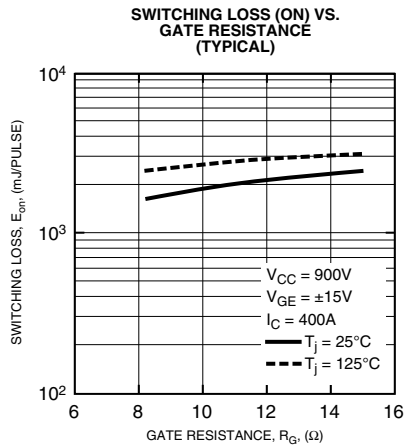
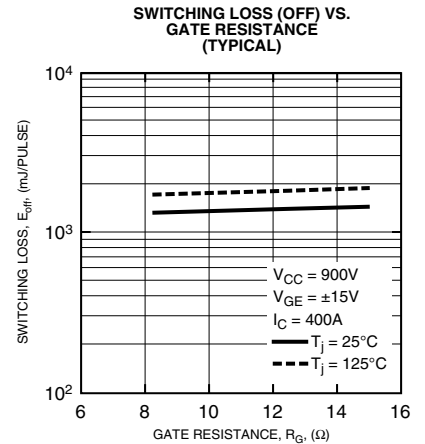
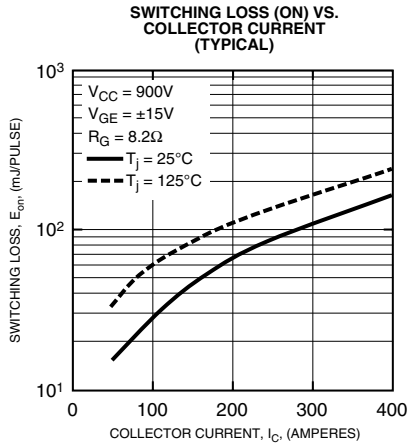
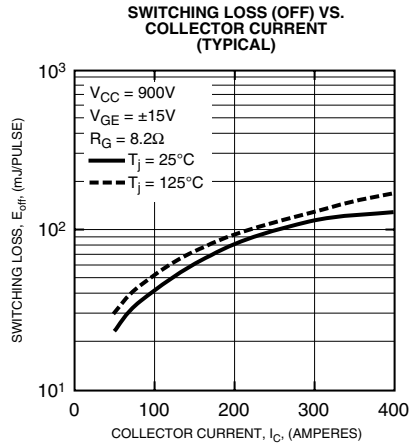
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