

TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR SILICON N CHANNEL MOS TYPE

# GT8Q102(SM)

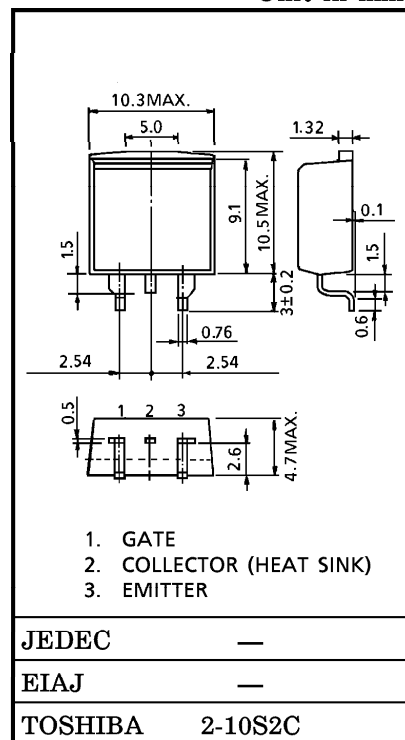
HIGH POWER SWITCHING APPLICATIONS

MOTOR CONTROL APPLICATIONS

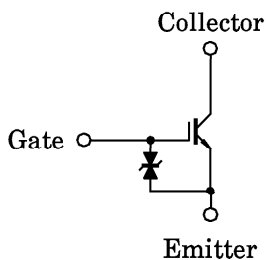
Unit in mm

**MAXIMUM RATINGS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V <sub>CES</sub>	1200	V
Gate-Emitter Voltage	V <sub>GES</sub>	±20	V
Collector Current	DC	I <sub>C</sub>	8
	1ms	I <sub>CP</sub>	16
Collector Power Dissipation	(T <sub>c</sub> =25°C) P <sub>C</sub>	50	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55~150	°C



**EQUIVALENT CIRCUIT**



**ELECTRICAL CHARACTERISTICS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	I <sub>GES</sub>	V <sub>GE</sub> = ±20V, V <sub>CE</sub> = 0	—	—	±10	μA
Collector Cut-off Current	I <sub>CES</sub>	V <sub>CE</sub> = 1200V, V <sub>GE</sub> = 0	—	—	1.0	mA
Gate-Emitter Cut-off Voltage	V <sub>GE (OFF)</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 8mA	3.0	—	6.0	V
Collector-Emitter Saturation Voltage	V <sub>CE (sat)</sub>	I <sub>C</sub> = 8A, V <sub>GE</sub> = 15V	—	3.0	4.0	V
Input Capacitance	C <sub>ies</sub>	V <sub>CE</sub> = 10V, V <sub>GE</sub> = 0, f = 1MHz	—	1000	—	pF
Switching Time	Rise Time	t <sub>r</sub>	—	0.3	0.6	μs
	Turn-on Time	t <sub>on</sub>	—	0.4	0.8	
	Fall Time	t <sub>f</sub>	—	0.25	0.5	
	Turn-off Time	t <sub>off</sub>	—	0.7	1.3	

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