

2PG301

Insulated Gate Bipolar Transistor

■ Features

- High breakdown voltage : $V_{CES}=400V$
- Large current control possible : $I_{C(peak)}=130A$
- Housing in the surface mounting package possible

■ Applications

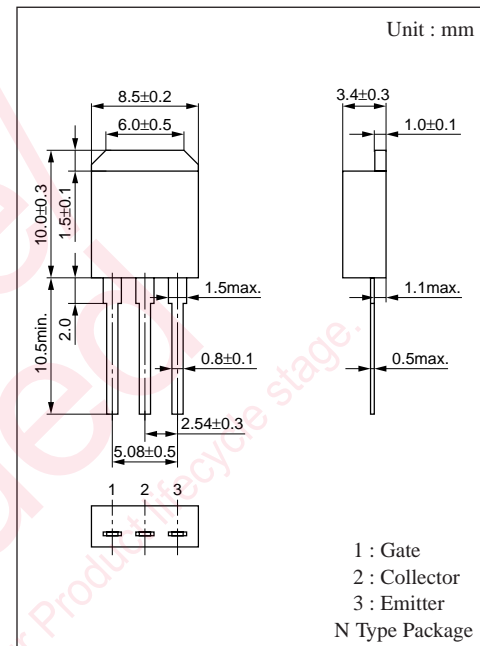
- For camera flash-light

■ Absolute Maximum Ratings ($T_c = 25^\circ C$)

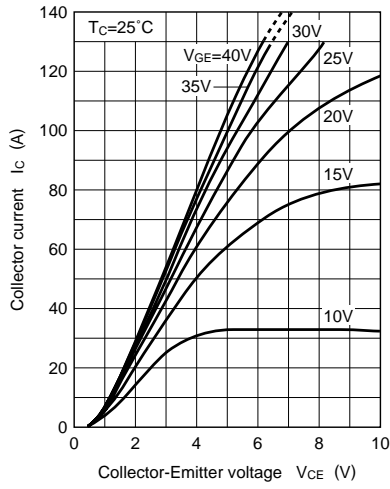
Parameter	Symbol	Rating	Unit	
Collector-Emitter voltage	V_{CES}	400	V	
Gate-Emitter voltage	V_{GES}	± 40	V	
Collector current	DC	I_C	20	A
	Pulse	I_{CP}	130	A
Allowable power dissipation	$T_c=25^\circ C$	P_C	45	W
	$T_a=25^\circ C$		1.3	
Channel temperature	T_{ch}	150	$^\circ C$	
Storage temperature	T_{stg}	- 55 to +150	$^\circ C$	

■ Electrical Characteristics ($T_c = 25^\circ C$)

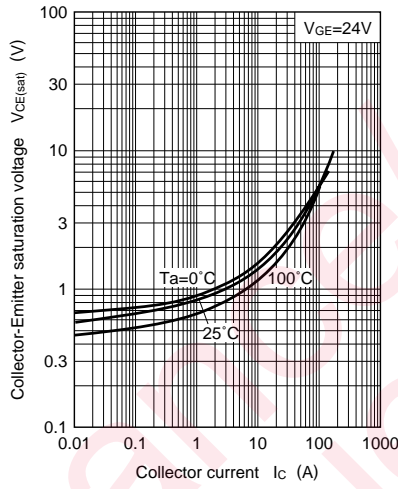
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Collector-Emitter cut-off current	I_{CES}	$V_{CE}=320V, V_{GE}=0$			10	μA
Gate-Emitter leakage current	I_{GES}	$V_{GE}=\pm 40V, V_{CE}=0$			± 1	μA
Collector-Emitter breakdown voltage	V_{CES}	$I_C=1mA, V_{GE}=0$	400			V
Gate threshold voltage	$V_{GE(th)}$	$V_{CE}=10V, I_C=1mA$	3	5.5	7	V
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$V_{GE}=24V, I_C=20A$			2.25	V
		$V_{GE}=24V, I_C=130A$			10	
Input capacitance	C_{ies}	$V_{CE}=10V, V_{GE}=0, f=1MHz$		1450		pF
Turn-on time (delay time)	$t_{d(on)}$	$V_{CC}=340V, I_C=130A$ $V_{GE}=24V, R_g=25\Omega$		25		ns
Rise time	t_r			300		ns
Turn-off time (delay time)	$t_{d(off)}$			250		ns
Fall time	t_f			2.0		μs



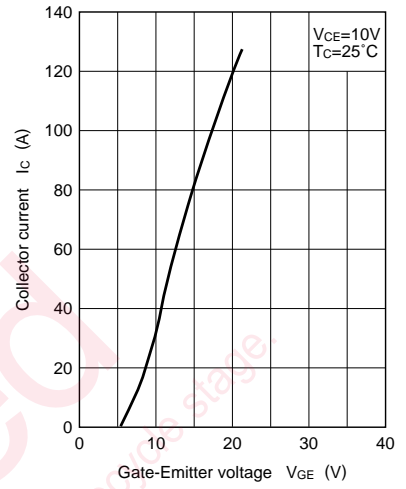
$I_C - V_{CE}$



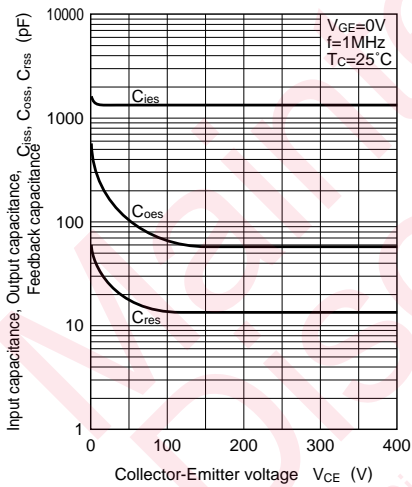
$V_{CE(sat)} - I_C$



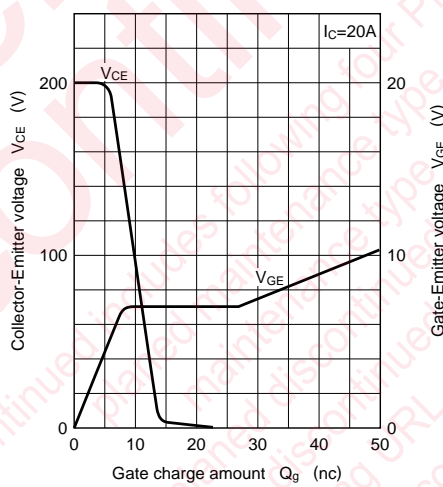
$I_C - V_{GE}$



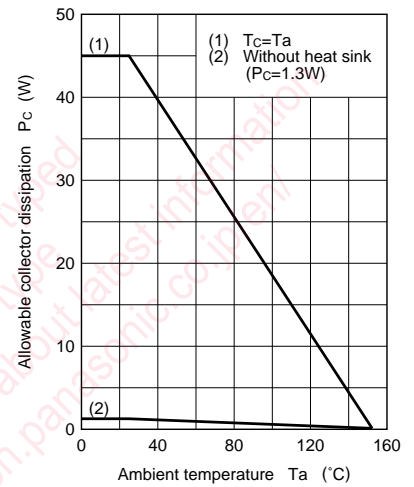
$C_{ies}, C_{oes}, C_{res} - V_{CE}$



$V_{CE}, V_{GE} - Q_g$



$P_C - T_a$



Caution for Safety

 **DANGER**

■ This product contains Gallium Arsenide (GaAs).

GaAs powder and vapor are hazardous to human health if inhaled or ingested. Do not burn, destroy, cut, cleave off, or chemically dissolve the product. Follow related laws and ordinances for disposal. The product should be excluded from general industrial waste or household garbage.

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