

# 2PG402

## Insulated Gate Bipolar Transistor

### ■ Features

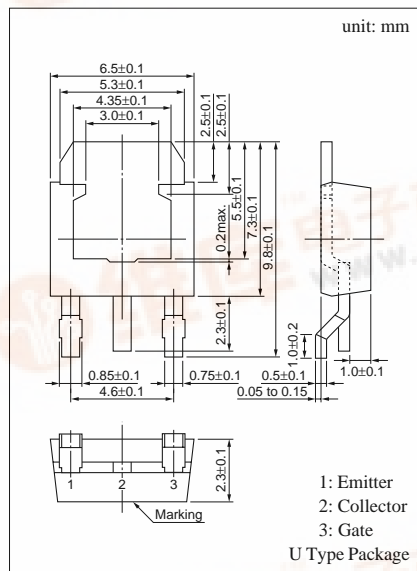
- High breakdown voltage:  $V_{CES} = 400V$
- Allowing to control large current:  $I_{C(peak)} = 130A$
- Housed in the surface mounting package

### ■ Applications

- For flash-light for use in a camera

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

Parameter	Symbol	Ratings	Unit
Collector to emitter voltage	$V_{CES}$	400	V
Gate to emitter voltage	$V_{GES}$	$\pm 8$	V
Collector current	DC	$I_C$	5 A
	Pulse	$I_{CP}$	130 A
Allowable power dissipation	$T_C = 25^\circ C$	$P_C$	10 W
	$T_a = 25^\circ C$		1 W
Channel temperature	$T_{ch}$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ C$

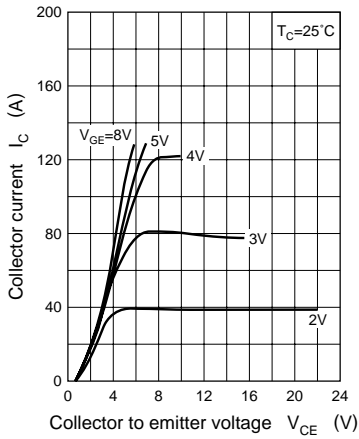


### ■ Electrical Characteristics ( $T_C = 25^\circ C$ )

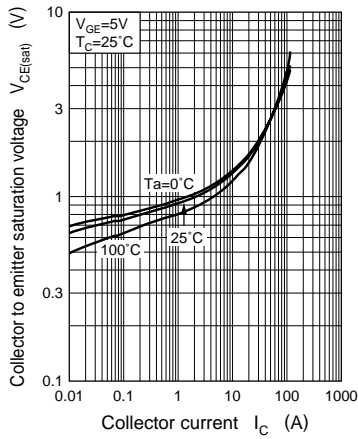
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to emitter cut-off current	$I_{CES}$	$V_{CE} = 320V, V_{GE} = 0$			10	$\mu A$
Gate to emitter leakage current	$I_{GES}$	$V_{GE} = \pm 8V, V_{CE} = 0$			$\pm 1$	$\mu A$
Collector to emitter breakdown voltage	$V_{CES}$	$I_C = 1mA, V_{GE} = 0$	400			V
Gate threshold voltage	$V_{GE(th)}$	$V_{CE} = 10V, I_C = 1mA$	0.5		1.5	V
Collector to emitter saturation voltage	$V_{CE(sat)}$	$V_{GE} = 5V, I_C = 5A$			2	V
		$V_{GE} = 5V, I_C = 130A$			10	
Input capacitance (Common Emitter)	$C_{ies}$	$V_{CE} = 10V, V_{GE} = 0, f = 1MHz$		1930		pF
Turn-on time (delay time)	$t_{d(on)}$	$V_{CC} = 300V, I_C = 130A$ $V_{GE} = 5V, R_g = 25\Omega$		130		ns
Rise time	$t_r$		1.4		$\mu s$	
Turn-off time (delay time)	$t_{d(off)}$		350		ns	
Fall time	$t_f$		1.5		$\mu s$	



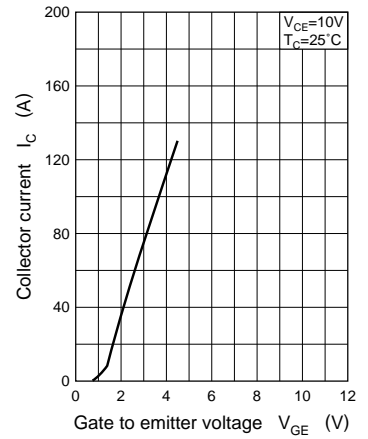
$I_C - V_{CE}$



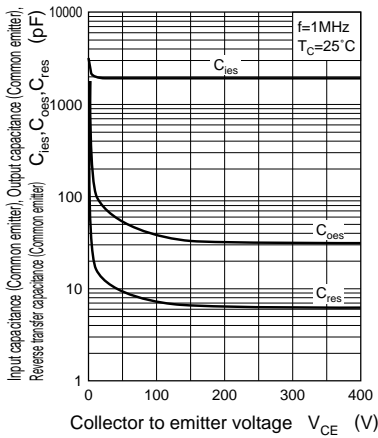
$V_{CE(sat)} - I_C$



$I_C - V_{GE}$



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



$P_C - T_a$

