

2PG001

N-channel enhancement mode IGBT

For plasma display panel drive
For high speed switching circuits

■ Features

- Low collector-emitter saturation voltage: $V_{CE(sat)} < 2.5\text{ V}$
- High speed hall time: $t_f = 250\text{ nsec (typ.)}$

■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

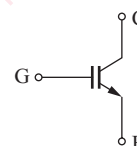
Parameter	Symbol	Rating	Unit
Collector-emitter voltage (E-B short)	V_{CES}	300	V
Gate-emitter voltage (E-B short)	V_{GES}	± 30	V
Collector current	I_C	30	A
Peak collector current *	I_{CP}	120	A
Power dissipation	P_C	40	W
		$T_a = 25^\circ\text{C}$	2.0
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note) *: $PW \leq 10\text{ us}$, $Duty \leq 1.0\%$

■ Package

- Code
TO-220F-A1
- Marking Symbol: 2PG001
- Pin Name
 1. Gate
 2. Collector
 3. Emitter

■ Internal Connection



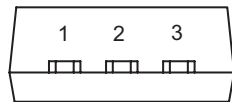
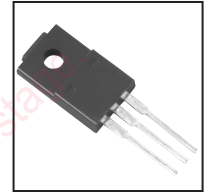
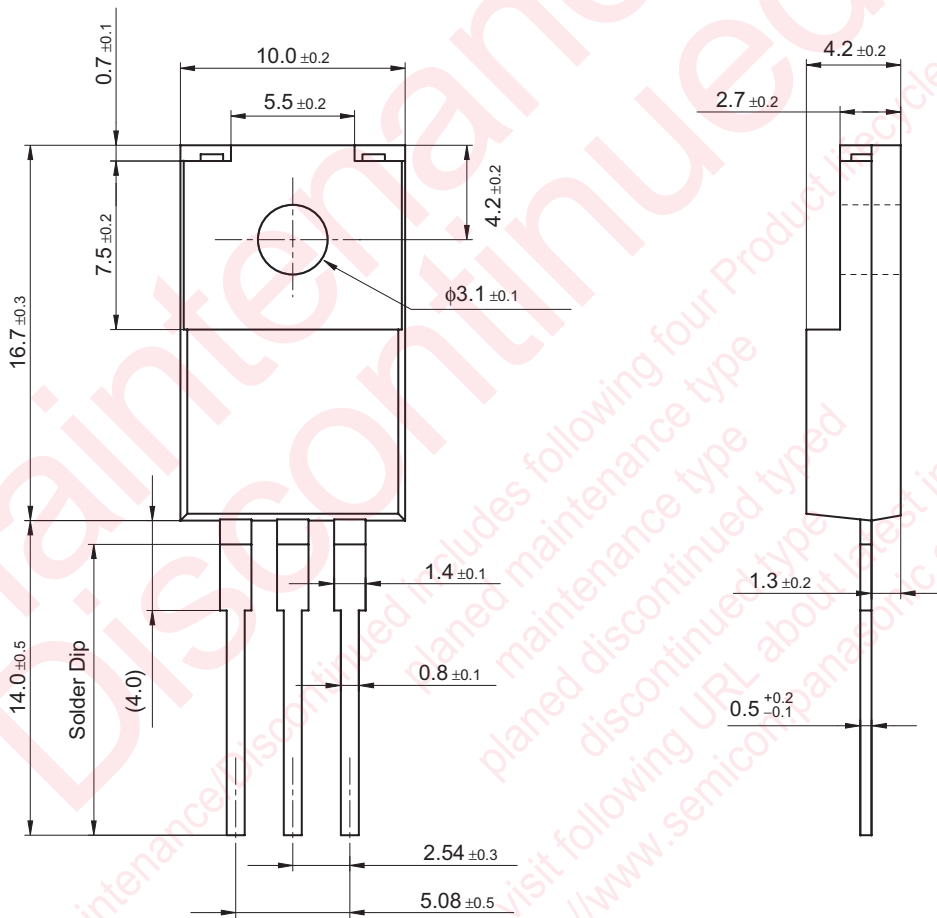
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit	
Collector-emitter voltage (E-B short)	V_{CES}	$I_C = 1\text{ mA}$, $V_{GE} = 0$	300			V	
Collector-emitter cutoff current (E-B short)	I_{CES}	$V_{CE} = 240\text{ V}$, $V_{GE} = 0$			50	μA	
Gate-emitter cutoff current (E-B short)	I_{GES}	$V_{GE} = \pm 30\text{ V}$, $V_{CE} = 0$			± 1.0	μA	
Gate-emitter threshold voltage	$V_{GE(th)}$	$V_{CE} = 10\text{ V}$, $I_C = 1.0\text{ mA}$	3.0		5.5	V	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$V_{GE} = 15\text{ V}$, $I_C = 30\text{ A}$		2.0	2.5	V	
Short-circuit input capacitance (Common emitter)	C_{ies}	$V_{CE} = 25\text{ V}$, $V_{GE} = 0$, $f = 1\text{ MHz}$		580		pF	
Short-circuit output capacitance (Common emitter)	C_{oes}				86		pF
Reverse transfer capacitance (Common emitter)	C_{res}				14		pF
Gate charge load	Q_g	$V_{CC} = 150\text{ V}$, $I_C = 30\text{ A}$, $V_{GE} = 15\text{ V}$		25		nC	
Gate-emitter charge	Q_{ge}				5		nC
Gate-collector charge	Q_{gc}				10		nC
Turn-on delay time	$t_{d(on)}$	$V_{CC} = 150\text{ V}$, $I_C = 30\text{ A}$, $RL \approx 5\ \Omega$, $V_{GE} = 15\text{ V}$		87		ns	
Rise time	t_r				400		ns
Turn-off delay time	$t_{d(off)}$				120		ns
Fall time	t_f				150		ns

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

TO-220F-A1

Unit: mm



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