2PG001

N-channel enhancement mode IGBT

For plasma display panel drive
For high speed switching circuits

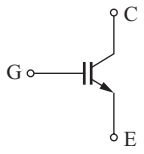
■ Features

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

■ Package

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

■ Internal Connection



■ Absolute Maximum Ratings $T_C = 25°C$

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
	$T_a = 25°C$		2.0	W
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	–55 to +150	°C

Note) *: PW ≤ 10 us, Duty ≤ 1.0%

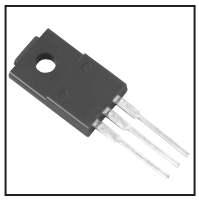
■ Electrical Characteristics $T_C = 25°C \pm 3°C$

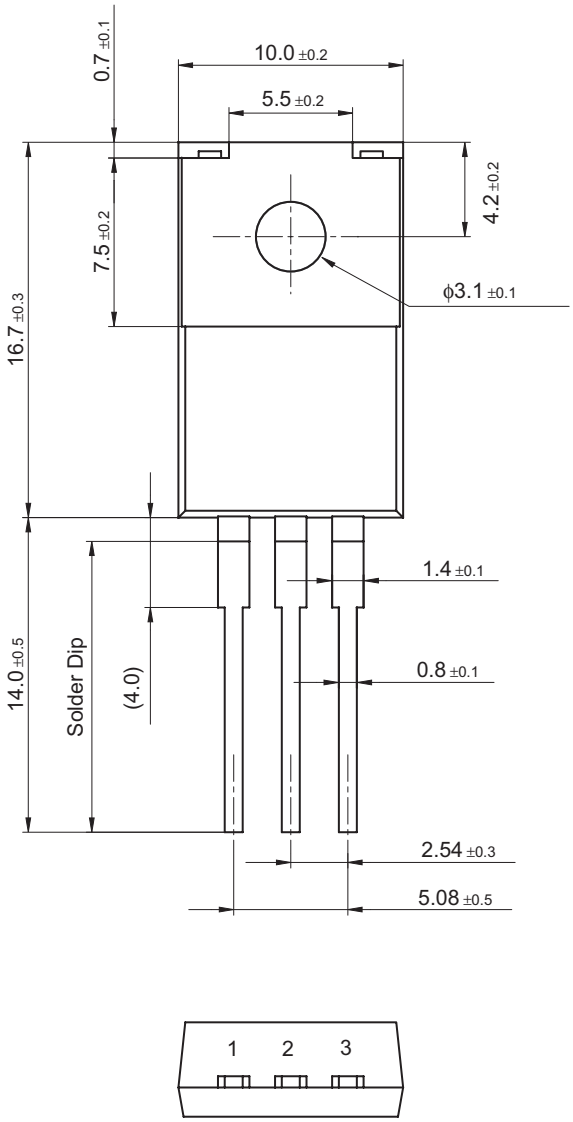
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (E-B short)	V_{CES}	$I_C = 1$ mA, $V_{GE} = 0$	300			V
Collector-emitter cutoff current (E-B short)	I_{CES}	$V_{CE} = 240$ V, $V_{GE} = 0$			50	μA
Gate-emitter cutoff current (E-B short)	I_{GES}	$V_{GE} = \pm 30$ V, $V_{CE} = 0$	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

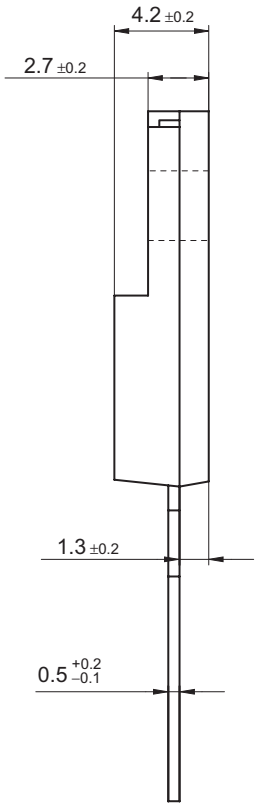
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

TO-220F-A1

Unit: mm







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