2PG002

N-channel enhancement mode IGBT

For plasma display panel drive
For high speed switching circuits

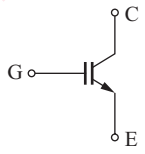
■ Features

- Low collector-emitter saturation voltage: $V_{CE(sat)}$ < 2.4 V
- High speed hall time: t_f = 190 nsec(typ.)

■ Package

- Code
  TO-220F-A1
- Marking Symbol: 2PG002
- 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}	410	V
Gate-emitter voltage (E-B short)		V_{GES}	±30	V
Collector current		I_C	40	A
Peak collector current *		I_{CP}	160	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%

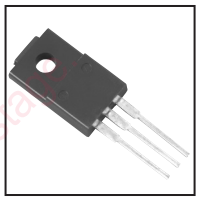
■ Electrical Characteristics T_C = 25°C±3°C

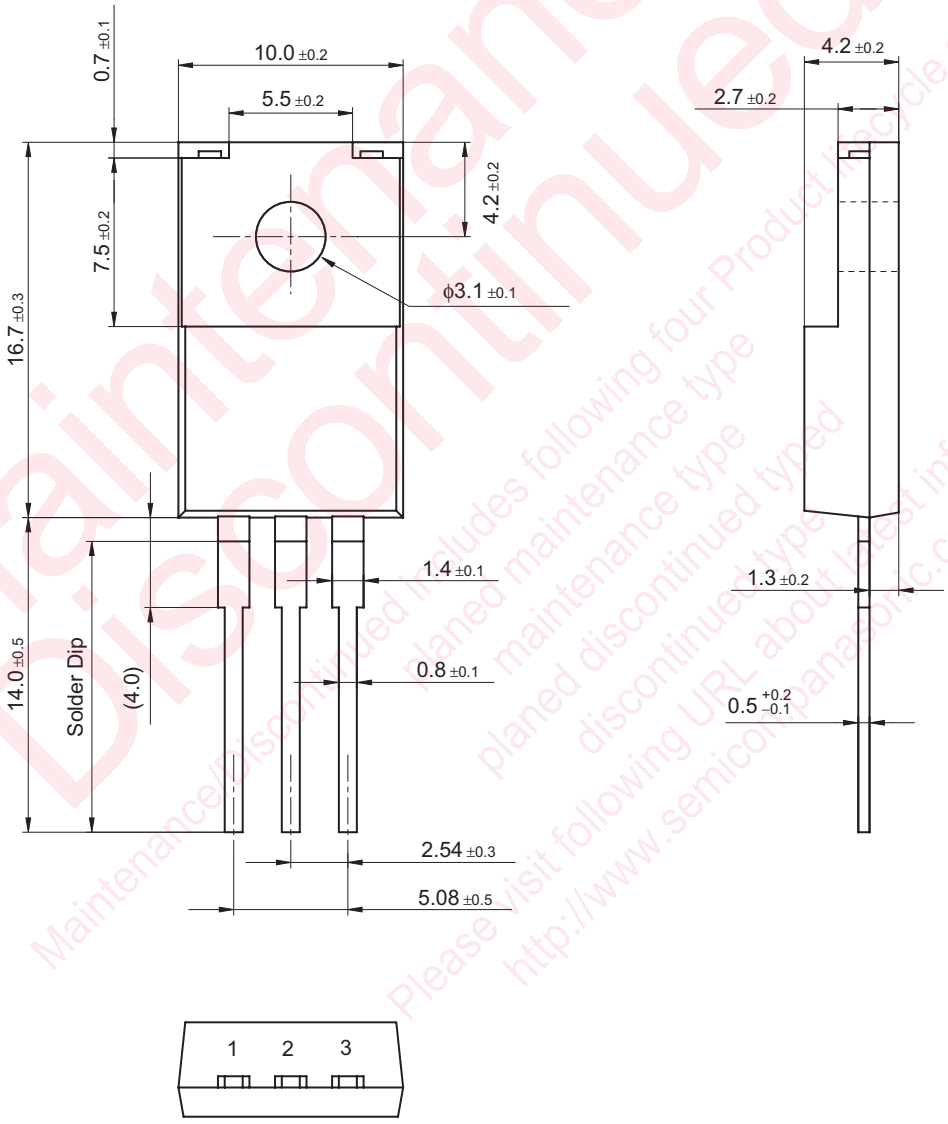
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (E-B short)	V_{CES}	I_C = 1 mA, V_{GE} = 0	410			V
Collector-emitter cutoff current (E-B short)	I_{CES}	V_{CE} = 328 V, V_{GE} = 0			50	μA
Gate-emitter cutoff current (E-B short)	I_{GES}	V_{GE} = ±30 V, V_{CE} = 0			±1.0	μA
Gate-emitter 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 = 40 A		1.9	2.4	V
Short-circuit input capacitance (Common emitter)	C_{ies}	V_{CE} = 25 V, V_{GE} = 0, f = 1 MHz		1200		pF
Short-circuit output capacitance (Common emitter)	C_{oes}			150		pF
Reverse transfer capacitance (Common emitter)	C_{res}			25		pF
Gate charge load	Q_g	V_{CC} = 200 V, I_C = 40 A, V_{GE} = 15 V		51		nC
Gate-emitter charge	Q_{ge}			7		nC
Gate-collector charge	Q_{gc}			22		nC
Turn-on delay time	$t_{d(on)}$	V_{CC} = 200 V, I_C = 40 A, RL ≈ 5 Ω, V_{GE} = 15 V		96		ns
Rise time	t_r			390		ns
Turn-off delay time	$t_{d(off)}$			200		ns
Fall time	t_f			190		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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