RJP30H1DPP-M0

Silicon N Channel IGBT
High speed power switching

R07DS0466EJ0200
Rev.2.00
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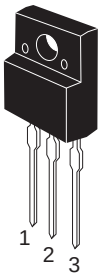
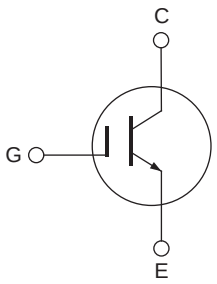
Features

- Trench gate and thin wafer technology (G6H-II series)
- High speed switching: t_r =80 ns typ., t_f = 150 ns typ.
- Low collector to emitter saturation voltage: $V_{CE(sat)}$= 1.5 V typ.
- Low leak current: I_{CES} = 1 μA max.
- Isolated package TO-220FL

Outline

RENESAS Package code: PRSS0003AF-A)
(Package name: TO-220FL)





1. Gate
2. Collector
3. Emitter

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to emitter voltage	V_{CES}	360	V
Gate to emitter voltage	V_{GES}	±30	V
Collector current	I_C	30	A
Collector peak current	ic(peak) Note1	200	A
Collector dissipation	P_C Note2	20	W
Junction to case thermal impedance	θj-c	6.25	°C/W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Notes: 1. PW ≤ 10 μs, duty cycle ≤ 1%
2. Tc = 25°C

Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Zero gate voltage collector current	I_{CES}	—	—	1	μA	V_{CE} = 360 V, V_{GE} = 0
Gate to emitter leak current	I_{GES}	—	—	±100	nA	V_{GE} = ± 30 V, V_{CE} = 0
Gate to emitter cutoff voltage	$V_{GE(off)}$	2.5	—	5	V	V_{CE} = 10 V, I_C = 1 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	1.5	2	V	I_C = 30A, V_{GE} = 15 V Note3
Input capacitance	Cies	—	740	—	pF	V_{CE} = 25 V V_{GE} = 0 f = 1 MHz
Output capacitance	Coes	—	40	—	pF	
Reveres transfer capacitance	Cres	—	17	—	pF	
Total gate charge	Qg	—	23	—	nC	V_{GE} = 15 V V_{CE} = 150 V I_C = 30 A
Gate to emitter charge	Qge	—	4	—	nC	
Gate to collector charge	Qgc	—	8	—	nC	
Switching time	$t_{d(on)}$	—	0.02	—	μs	I_C = 30 A R_L = 5 Ω V_{GE} = 15 V R_G = 5 Ω
	t_r	—	0.08	—	μs	
	$t_{d(off)}$	—	0.04	—	μs	
	t_f	—	0.15	—	μs	

Notes: 3. Pulse test