

RJH6007DPK-00

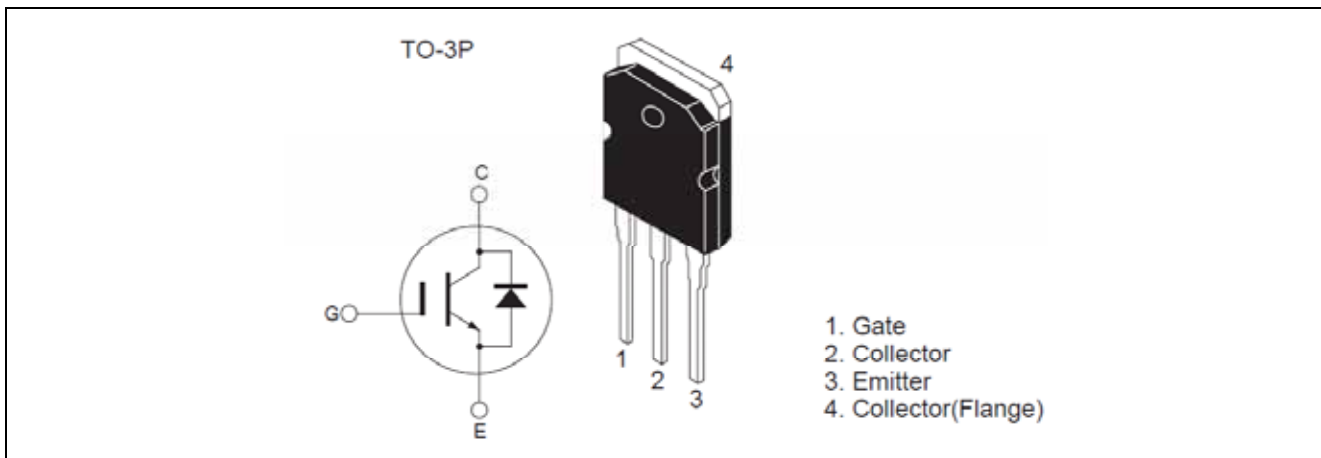
Silicon N Channel IGBT
High Speed Power Switching

Preliminary
Apr.14, 2008

Features

- High speed switching
- Low on-state voltage
- Fast recovery diode

Outline



Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to Emitter voltage	V_{CES}	600	V
Gate to Emitter voltage	V_{GES}	±20	V
Collector current	I_C	50	A
Collector peak current	$i_{c(peak)}$ ^{Note 1}	150	A
Collector to Emitter Diode Forward peak current	$i_{DF(peak)}$ ^{Note 2}	100	A
Collector dissipation	P_C ^{Note 3}	150	W
Channel temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

- Notes: 1. $PW \leq 10 \mu s$, duty cycle $\leq 1\%$
 2. $PW \leq 5 \mu s$, duty cycle $\leq 1\%$
 3. Value at $T_c = 25^\circ$

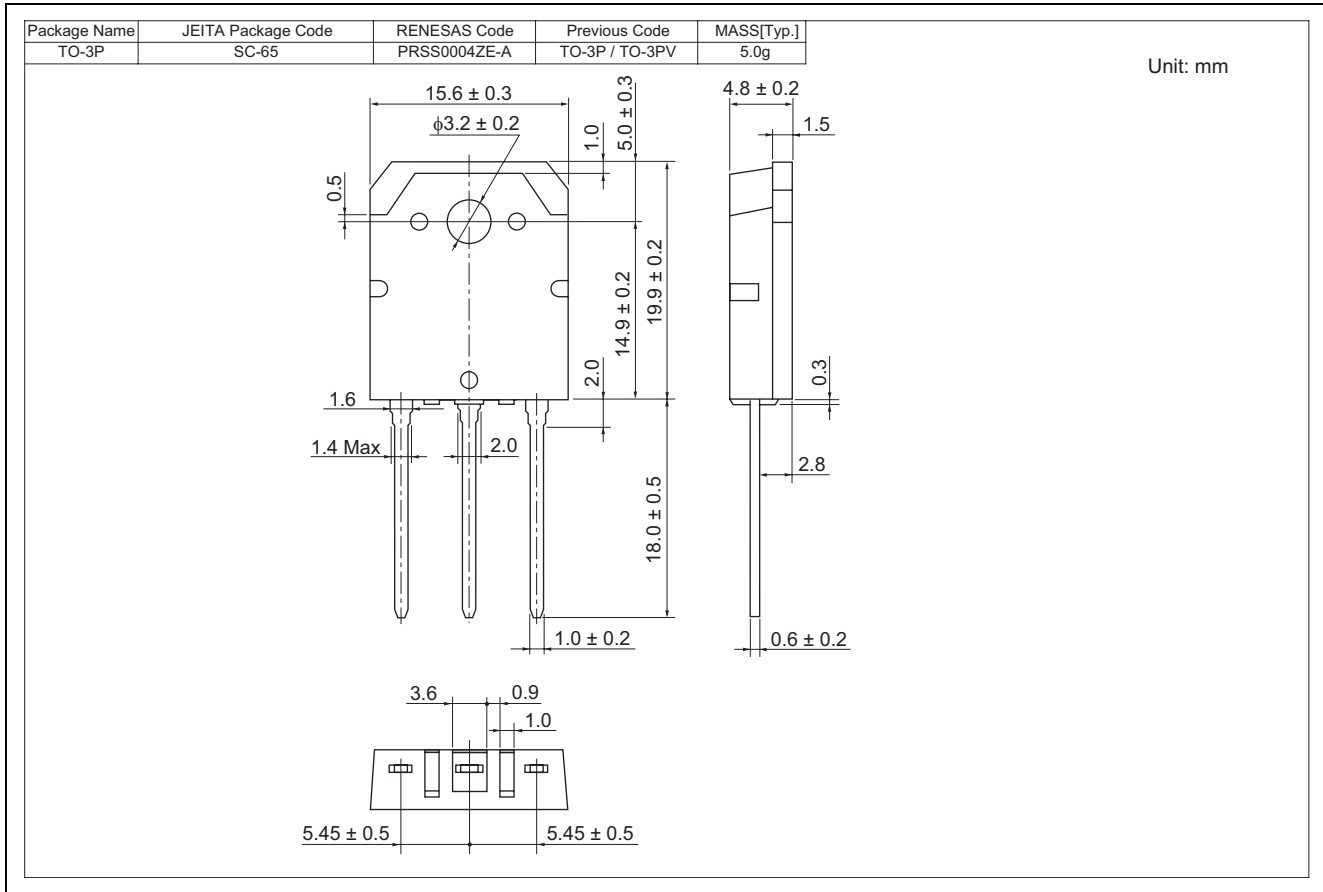
Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Zero gate voltage collector current	I_{CES}	-	-	100	μA	$V_{CE} = 600\text{V}, V_{GE} = 0$
Gate to emitter leak current	I_{GES}	-	-	± 1	μA	$V_{GE} = \pm 20\text{V}, V_{CE} = 0$
Gate to emitter cutoff voltage	$V_{GE(off)}$	4	-	6	V	$V_{CE} = 10\text{V}, I_C = 30\text{mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	-	2.55	2.95	V	$I_C = 30\text{A}, V_{GE} = 15\text{V}$ ^{Note3}
Input capacitance	C_{ies}	-	2400	-	pF	$V_{CE} = 25\text{V}$
Output capacitance	C_{oes}	-	100	-	pF	$V_{GE} = 0$
Reveres transfer capacitance	C_{res}	-	30	-	pF	$f = 1\text{MHz}$
Switching time	$t_{d(on)}$	-	35	-	ns	$I_C = 30\text{A}, \text{Resistive Load}$
	t_r	-	70	-	ns	$V_{CC} = 300\text{V}$
	$t_{d(off)}$	-	85	-	ns	$V_{GE} = 15\text{V}$
	t_f	-	50	-	ns	$R_g = 5\ \Omega$
C-E diode Forward voltage	V_{ECF1}	—	1.6	2.1	V	$I_F = 20\text{A}$ ^{Note3}
C-E diode Forward voltage	V_{ECF2}	—	2	—	V	$I_F = 40\text{A}$ ^{Note3}
C-E diode reverse recovery time	t_{rr}	—	140	—	ns	$I_F = 20\text{A}$ $diF/dt = 100\text{A}/\mu\text{s}$

Notes: 3. Pulse test

Package Dimensions



Notes:

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