

2SD1663

Silicon NPN Triple-Diffused Junction Mesa Type

Power Switching

■ Features

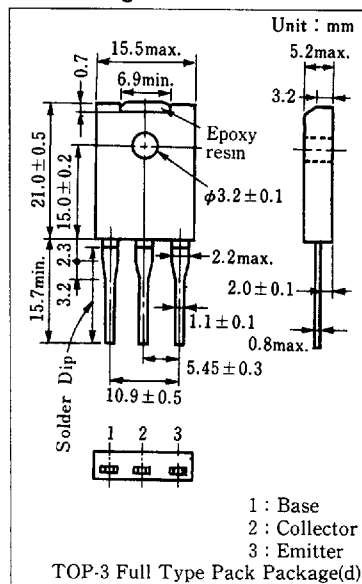
- High breakdown voltage and high reliability by a glass passivation
- High speed switching
- Wide area of safety operation (ASO)
- "Full Pack" package for simplified mounting on a heat sink with one screw

■ Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CB0}	1500	V
Collector-emitter voltage	V_{CES}	1500	V
Collector-emitter voltage	V_{EBO}	7.7	V
Peak collector current	I_{CP}^*	10	A
Collector current	I_C	5	A
Base current	I_B	3	A
Collector power dissipation	$T_c = 25^\circ\text{C}$ $T_a = 25^\circ\text{C}$	P_C	W
Collector power dissipation (Tc=25°C)	P_C	80	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C

* Non-repetitive peak value

■ Package Dimensions



■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CB0}	$V_{CB} = 750\text{ V}, I_E = 0$			50	μA
		$V_{CB} = 1500\text{ V}, I_E = 0$			1	mA
Emitter cutoff current	I_{EBO}	$V_{EB} = 7.7\text{ V}, I_C = 0$			100	μA
Collector-emitter voltage	$V_{CE0(sus)}$	$I_C = 0.5\text{ A}, L = 50\text{ mH}$	700			V
DC current gain	h_{FE}^*	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	18		50	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 4.5\text{ A}, I_B = 2\text{ A}$			2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 4.5\text{ A}, I_B = 2\text{ A}$			1.5	V
Turn-on time	t_{on}	$I_C = 2.5\text{ A}, I_{B1} = 0.5\text{ A}, I_{B2} = -1\text{ A}$ $V_{CC} = 200\text{ V}$			1	μs
Collector current fall time	t_f				0.5	μs
Storage time	t_{stg}				3	μs
Transition frequency	f_T	$V_{CE} = 10\text{ V}, I_C = 1\text{ A}, f = 0.5\text{ MHz}$		2		MHz

* h_{FE} Classifications

Class	Q	P
h_{FE}	18 ~ 34	18 ~ 50

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