

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

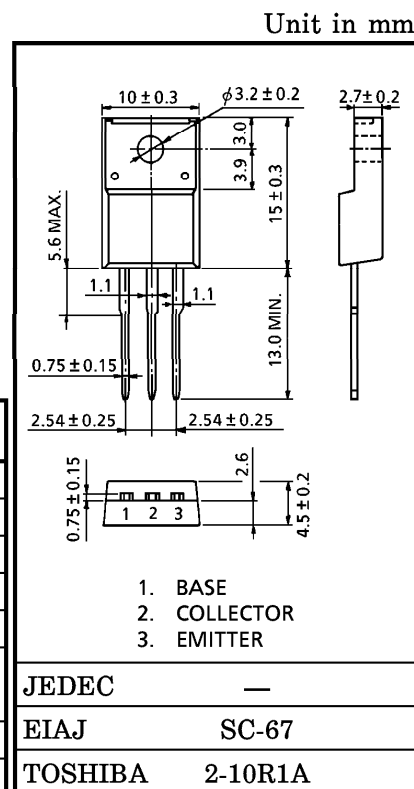
2SD2531

POWER AMPLIFIER APPLICATIONS

- Low Collector Saturation Voltage
: $V_{CE(sat)} = 0.5 \text{ V (Typ.)}$ ($I_C = 2.5 \text{ A}$, $I_B = 0.25 \text{ A}$)
- High Power Dissipation
: $P_C = 25 \text{ W}$ ($T_c = 25^\circ\text{C}$)

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	60	V
Collector-Emitter Voltage		V_{CEO}	60	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current		I_C	4	A
Base Current		I_B	1	A
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	P_C	2.0	W
	$T_c = 25^\circ\text{C}$		25	
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 60 \text{ V}$, $I_E = 0$	—	—	100	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 7 \text{ V}$, $I_C = 0$	—	—	100	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10 \text{ mA}$, $I_B = 0$	60	—	—	V
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5 \text{ V}$, $I_C = 0.5 \text{ A}$	100	—	320	
	$h_{FE(2)}$	$V_{CE} = 5 \text{ V}$, $I_C = 3 \text{ A}$	20	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2.5 \text{ A}$, $I_B = 0.25 \text{ A}$	—	0.5	1.0	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = 5 \text{ V}$, $I_C = 0.5 \text{ A}$	—	0.75	1.0	V
Transition Frequency	f_T	$V_{CE} = 5 \text{ V}$, $I_C = 0.5 \text{ A}$	—	3	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$	—	35	—	pF

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