

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (DARLINGTON POWER TRANSISTOR)

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# 2SD2449

**POWER AMPLIFIER APPLICATIONS**

Unit in mm

- High Breakdown Voltage :  $V_{CEO} = 160 \text{ V}$  (Min.)
- Complementary to 2SB1594

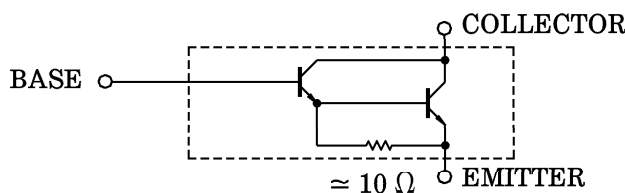
**MAXIMUM RATINGS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	160	V
Collector-Emitter Voltage	$V_{CEO}$	160	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	10	A
Base Current	$I_B$	1	A
Collector Power Dissipation (Tc = 25°C)	$P_C$	150	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

JEDEC	—
EIAJ	—
TOSHIBA	2-21F1A

Weight : 9.75 g

**EQUIVALENT CIRCUIT**



**ELECTRICAL CHARACTERISTICS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 160 \text{ V}, I_E = 0$	—	—	5	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 5 \text{ V}, I_C = 0$	—	—	5	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50 \text{ mA}, I_B = 0$	160	—	—	V
DC Current Gain	$h_{FE} (1)$ (Note)	$V_{CE} = 5 \text{ V}, I_C = 8 \text{ A}$	3000	—	20000	
	$h_{FE} (2)$	$V_{CE} = 5 \text{ V}, I_C = 12 \text{ A}$	2000	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 8 \text{ A}, I_B = 8 \text{ mA}$	—	—	3.0	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = 5 \text{ V}, I_C = 8 \text{ A}$	—	—	3.0	V
Transition Frequency	$f_T$	$V_{CE} = 5 \text{ V}, I_C = 1 \text{ A}$	—	30	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	—	150	—	pF

Note :  $h_{FE} (1)$  Classification    A : 3000~10000,    B : 5000~15000,    C : 7000~20000

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