

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

# 2SD2385

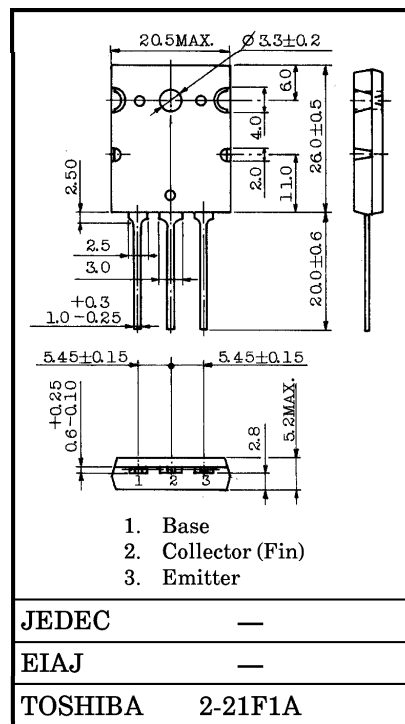
**POWER AMPLIFIER APPLICATIONS**

- High Breakdown Voltage :  $V_{CEO} = 140V$  (Min.)
- Complementary to 2SB1556

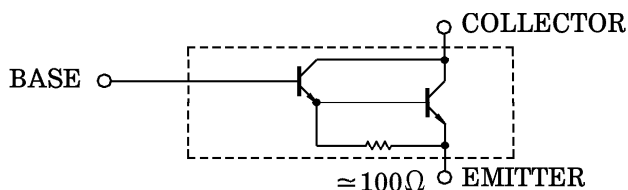
**MAXIMUM RATINGS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	140	V
Collector-Emitter Voltage	$V_{CEO}$	140	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	8	A
Base Current	$I_B$	0.1	A
Collector Power Dissipation (Tc = 25°C)	$P_C$	120	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

Unit in mm



**EQUIVALENT CIRCUIT**



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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-Off Current	$I_{CBO}$	$V_{CB} = 140V, I_E = 0$	—	—	5.0	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	—	—	5.0	$\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50mA, I_B = 0$	140	—	—	V
DC Current Gain	$h_{FE}(1)$ (Note)	$V_{CE} = 5V, I_C = 7A$	5000	—	30000	—
	$h_{FE}(2)$	$V_{CE} = 5V, I_C = 12A$	2000	—	—	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 7A, I_B = 7mA$	—	—	2.5	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = 5V, I_C = 7A$	—	—	3.0	V
Transition Frequency	$f_T$	$V_{CE} = 5V, I_C = 1A$	—	30	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	110	—	pF

Note :  $h_{FE}(1)$  Classification A : 5000~12000, B : 9000~18000, C : 15000~30000

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