TOSHIBA Transistor Silicon NPN Epitaxial Type (Darlington power transistor)

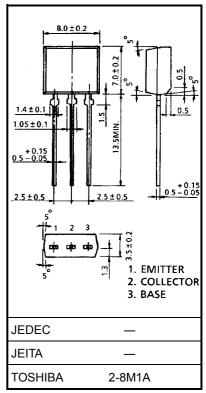
# 2SD2480

Micro Motor Drive, Hammer Drive Applications Switching Applications Power Amplifier Applications

- High DC current gain:  $h_{FE} = 2000 \text{ (min)} (V_{CE} = 2 \text{ V}, I_C = 1 \text{ A})$
- Low saturation voltage:  $V_{CE}$  (sat) = 1.5 V (max) (I<sub>C</sub> = 1 A, I<sub>B</sub> = 1 mA)

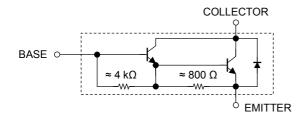
#### Maximum Ratings (Ta = 25°C)

Characteristics		Symbol	Rating	Unit	
Collector-base voltage		V <sub>CBO</sub>	100	V	
Collector-emitter voltage		V <sub>CEO</sub>	100	V	
Emitter-base voltage		V <sub>EBO</sub>	8	V	
Collector current	DC	Ι <sub>C</sub>	2	A	
	Pulse	I <sub>CP</sub>	3		
Base current		Ι <sub>Β</sub>	0.5	А	
Collector power dissipation		P <sub>C</sub>	1.3	W	
Junction temperature		Тј	150	°C	
Storage temperature range		T <sub>stg</sub>	-55 to 150	°C	



Weight: 0.55 g (typ.)

### **Equivalent Circuit**

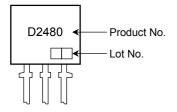


Unit: mm

**Electrical Characteristics (Ta = 25°C)** 

Characteristics		Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off c	current	I <sub>CBO</sub>	V <sub>CB</sub> = 80 V, I <sub>E</sub> = 0	—	—	10	μA
Emitter cut-off cur	rrent	I <sub>EBO</sub>	V <sub>EB</sub> = 8 V, I <sub>C</sub> = 0	_	_	4	mA
Collector- emitter	breakdown voltage	V (BR) CEO	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0	100	_	_	V
DC current gain		h <sub>FE</sub>	$V_{CE}$ = 2 V, I <sub>C</sub> = 1 A (pulse)	2000	_	_	
Collector-emitter saturation voltage		V <sub>CE (sat)</sub>	I <sub>C</sub> = 1 A, I <sub>B</sub> = 1 mA (pulse)	_	_	1.5	V
Base-emitter saturation voltage		V <sub>BE (sat)</sub>	I <sub>C</sub> = 1 A, I <sub>B</sub> = 1 mA (pulse)	_	_	2.0	V
Transition frequency		f <sub>T</sub>	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 0.5 A	_	100	_	MHz
Collector output capacitance		C <sub>ob</sub>	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz	_	20	_	pF
Switching time	Turn-on time	t <sub>on</sub>	20 $\mu$ s Input	_	0.4	_	
	Storage time	t <sub>stg</sub>		_	4.0	_	μs
	Fall time	t <sub>f</sub>		_	0.6	_	

# Marking

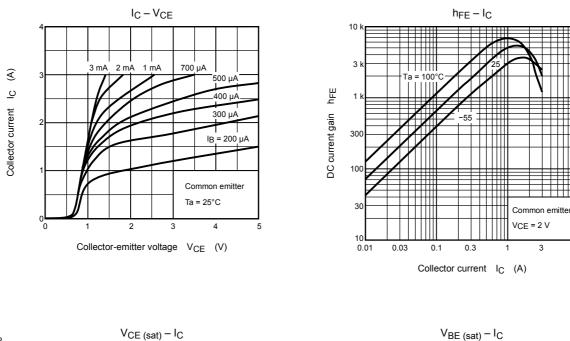


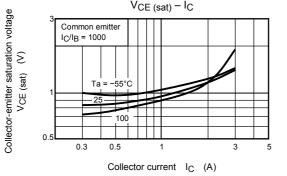
## Explanation of Lot No.

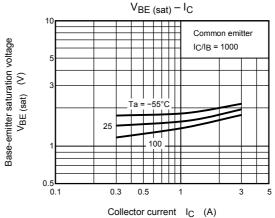
Month of manufacture (January to December are denoted by letters A to L respectively.)
Year of manufacture (Last decimal digit of the year of manufacture)

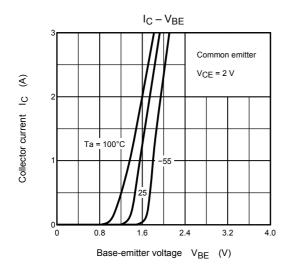
# TOSHIBA

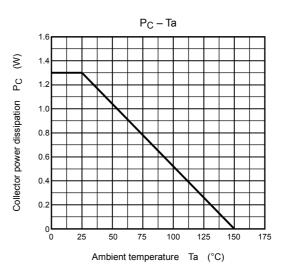
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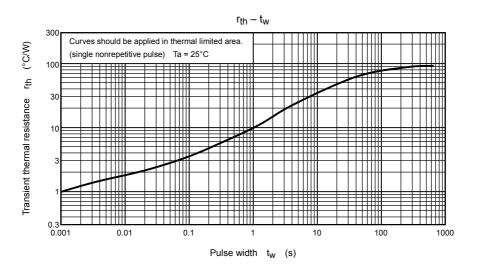


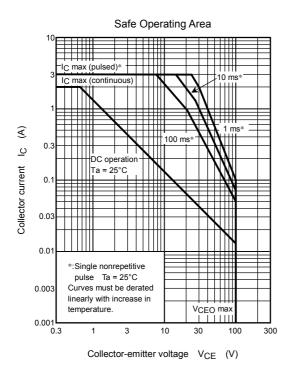












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