

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

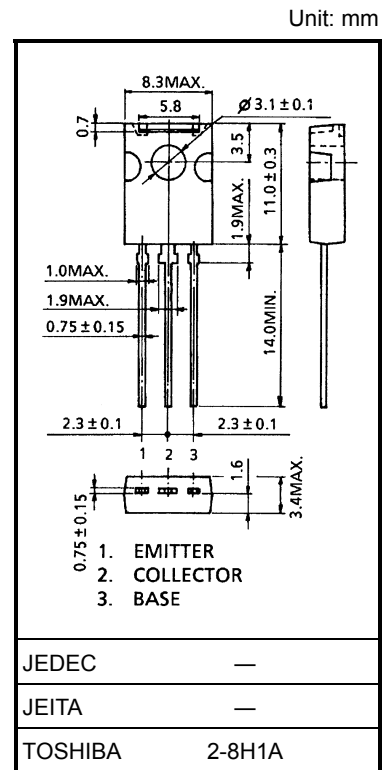
# 2SC3419

Medium-Power Amplifier Applications.

- Low saturation voltage:  $V_{CE(sat)} = 0.25\text{ V (typ.)}$   
( $I_C = 500\text{ mA}$ ,  $I_B = 50\text{ mA}$ )
- High collector power dissipation:  $P_C = 1.2\text{ W (Ta = 25°C)}$
- Complementary to 2SA1356

### Maximum Ratings (Tc = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	40	V
Collector-emitter voltage	$V_{CEO}$	40	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	800	mA
Base current	$I_B$	80	mA
Collector power dissipation	$P_C$	Ta = 25°C	1.2
		Tc = 25°C	5
Junction temperature	$T_j$	150	°C
Storage temperature range	$T_{stg}$	-55 to 150	°C



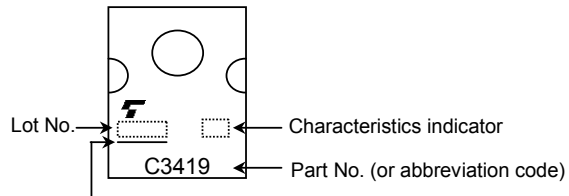
Weight: 0.82 g (typ.)

### Electrical Characteristics (Tc = 25°C)

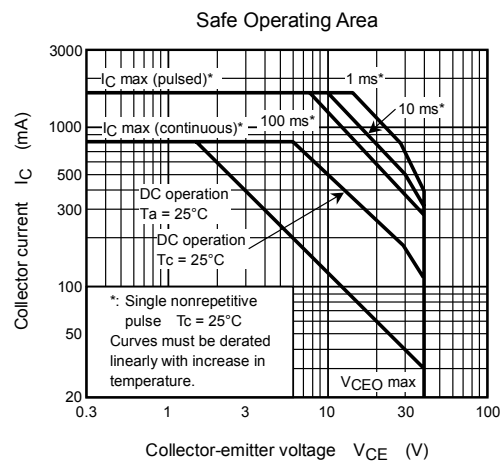
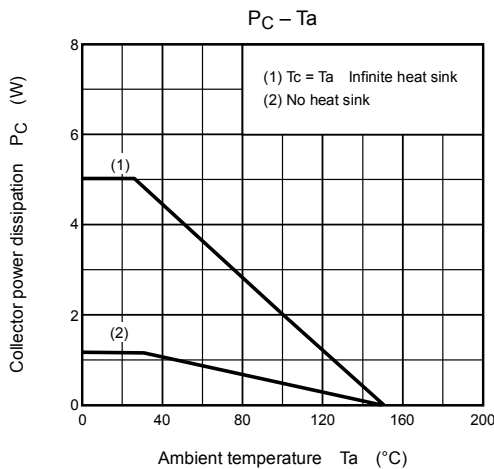
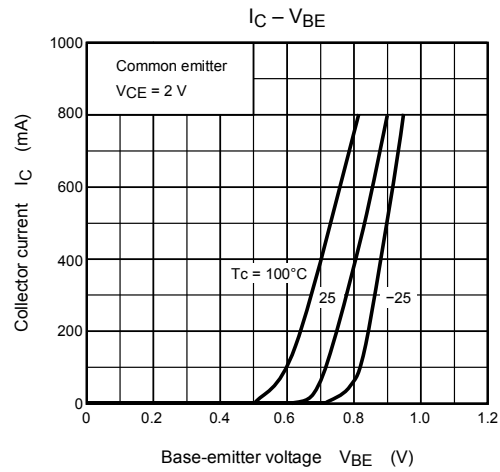
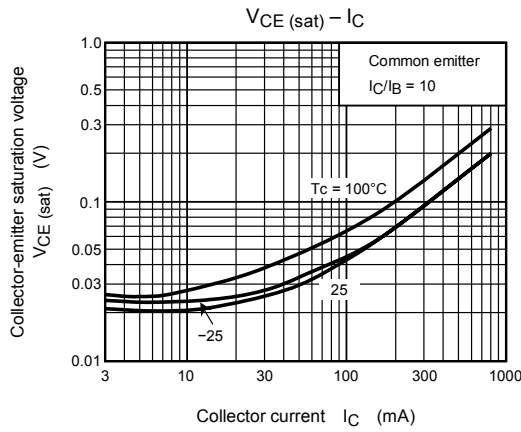
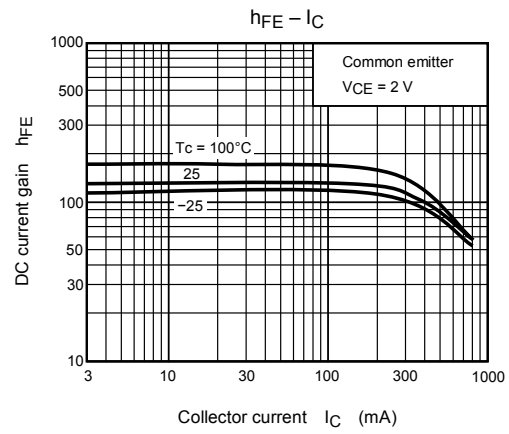
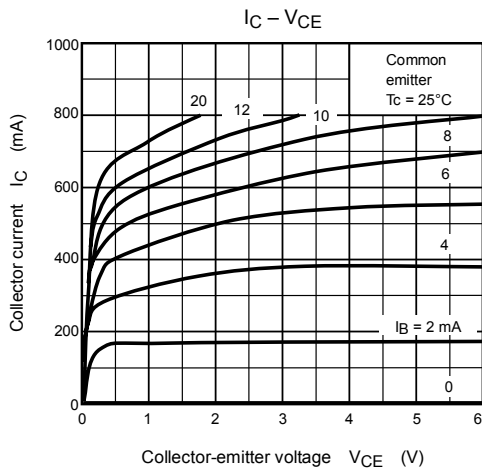
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 40\text{ V}$ , $I_E = 0$	—	—	1.0	μA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5\text{ V}$ , $I_C = 0$	—	—	1.0	μA
Collector-emitter breakdown voltage	$V_{CEO}$	$I_C = 10\text{ mA}$ , $I_B = 0$	40	—	—	V
DC current gain	$h_{FE(1)}$ (Note)	$V_{CE} = 2\text{ V}$ , $I_C = 50\text{ mA}$	70	—	240	
	$h_{FE(2)}$	$V_{CE} = 2\text{ V}$ , $I_C = 0.8\text{ A}$	13	60	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{ mA}$ , $I_B = 50\text{ mA}$	—	0.25	0.8	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = 2\text{ V}$ , $I_C = 500\text{ mA}$	—	0.90	1.1	V
Transition frequency	$f_T$	$V_{CE} = 2\text{ V}$ , $I_C = 0.5\text{ A}$	50	100	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$	—	10	—	pF

Note:  $h_{FE(1)}$  classification O: 70 to 140, Y: 120 to 240

## Marking



A line indicates  
lead (Pb)-free package or  
lead (Pb)-free finish.



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