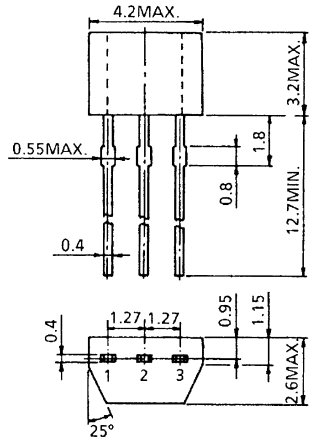
TOSHIBA Transistor Silicon NPN Epitaxial Planar Type

2SC5765

MEDIUM POWER AMPLIFIER APPLICATIONS
STOROBO FLASH APPLICATIONS

- Low Saturation Voltage: $V_{CE\ (sat)\ (1)}$ = 0.27 V (max.)
  (I_C = 3 A/I_B = 60 mA)

Unit: mm



1. EMITTER
2. COLLECTOR
3. BASE

MINI

JEDEC	—
JEITA	—
TOSHIBA	2-4E1A

Weight: 0.13 g

Maximum Ratings (Ta = 25°C)

Characteristic		Symbol	Rating	Unit
Collector-Base voltage		V_{CBO}	15	V
Collector-Emitter voltage		V_{CEO}	10	V
Emitter-Base voltage		V_{EBO}	7	V
Collector current	DC	I_C	5	A
	Pulsed	I_{CP}	9	
Collector power dissipation		P_C (Note1)	550	mW
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	−55 to 150	°C

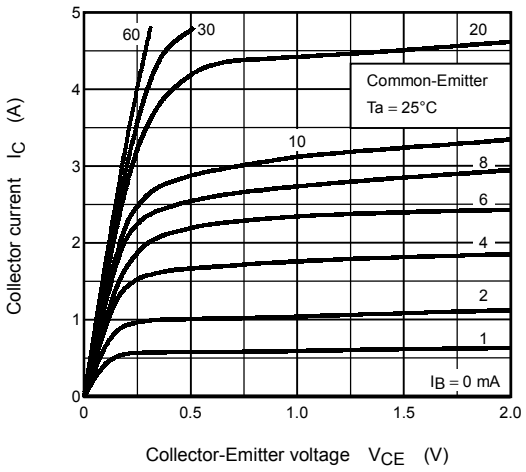
Note 1: When a device is mounted on a glass epoxy board (35 mm × 30 mm × 1mm)

Electrical Characteristics (Ta = 25°C)

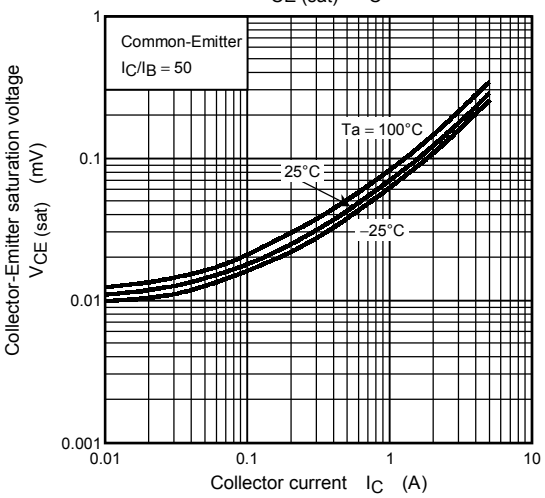
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 15 V, I_E = 0	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 5 V, I_C = 0	—	—	0.1	μA
Collector-Emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 1 mA, I_B = 0	10	—	—	V
DC current gain	$h_{FE(1)}$ (Note2)	V_{CE} = 1.5 V, I_C = 0.5 A	450	—	700	
	$h_{FE(2)}$ (Note2)	V_{CE} = 1.5 V, I_C = 2 A	320	—	—	
	$h_{FE(3)}$ (Note2)	V_{CE} = 1.5 V, I_C = 5 A	170	—	—	
Collector-Emitter saturation voltage	$V_{CE\ (sat)}$ (Note2)	I_C = 3 A, I_B = 60 mA	—	—	0.27	V
Collector-Output Capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz	—	25	—	pF

Note 2: Pulse test

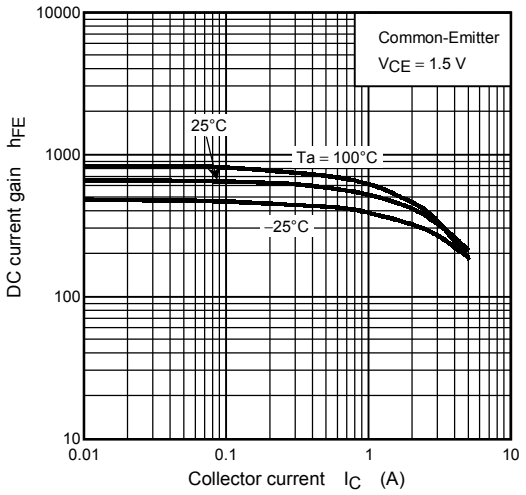
$I_C - V_{CE}$



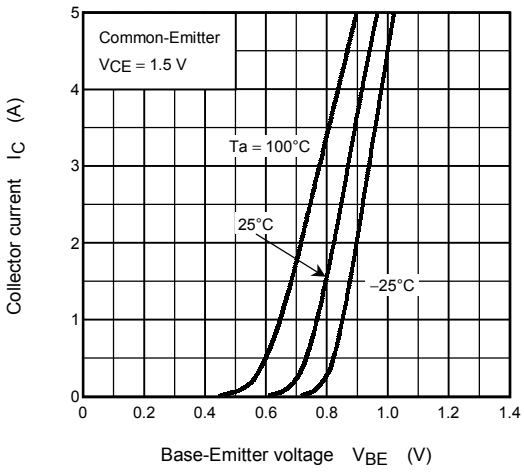
$V_{CE\ (sat)} - I_C$



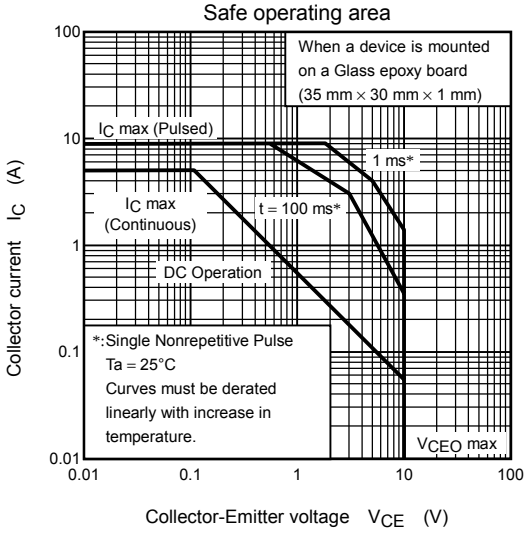
$h_{FE} - I_C$



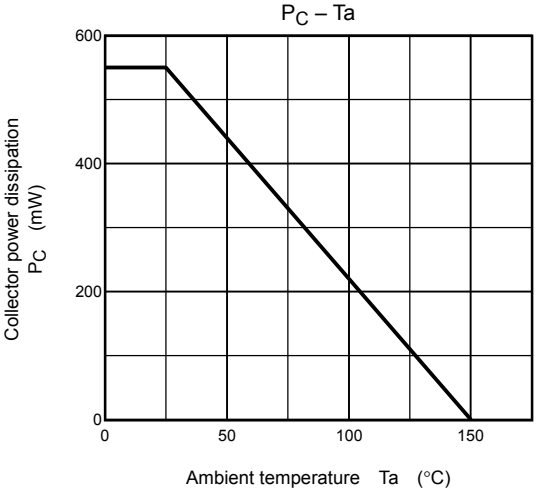
$I_C - V_{BE}$

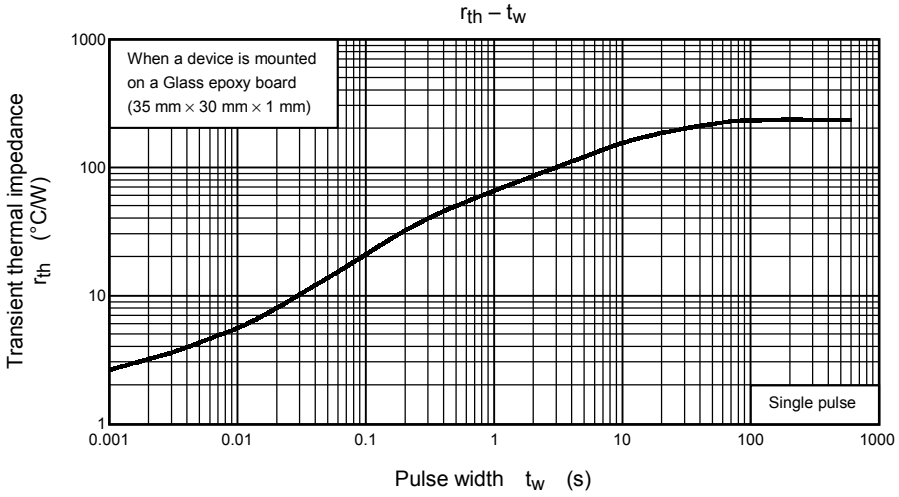


Safe operating area



$P_C - Ta$




$r_{th} - t_w$
When a device is mounted
on a Glass epoxy board
(35 mm × 30 mm × 1 mm)
Single pulse
Transient thermal impedance
r_{th} (°C/W)
1000
100
10
1
0.001
0.01
0.1
1
10
100
1000
Pulse width t_w (s)

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