TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

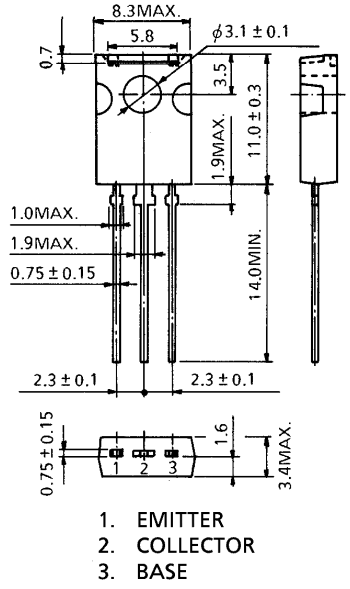
2SC3613

VIDEO DRIVER STAGE IN HIGH RESOLUTION DISPLAY.

HIGH SPEED SWITCHING APPLICATIONS.

- High Transition Frequency : f_T = 3.5GHz (Typ.)
- Low Collector Output Capacitance : C_{ob} = 3.3pF (Typ.)
- Collector-metal (Fin) is Fully Covered with Mold Resin.

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-8H1A

Weight : 0.82g

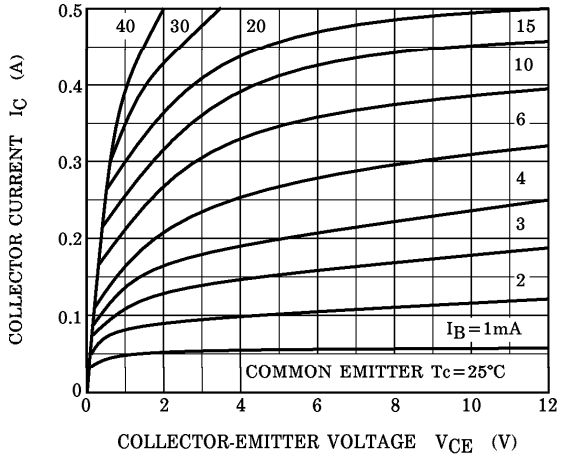
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	20	V
Collector-Emitter Voltage		V_{CEO}	18	V
Emitter-Base Voltage		V_{EBO}	3	V
Collector Current	DC	I_C	0.5	A
	Pulse	I_{CP}	0.8	
Base Current		I_B	0.2	A
Collector Power Dissipation	Ta = 25°C	P_C	1.5	W
	Tc = 25°C		5	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

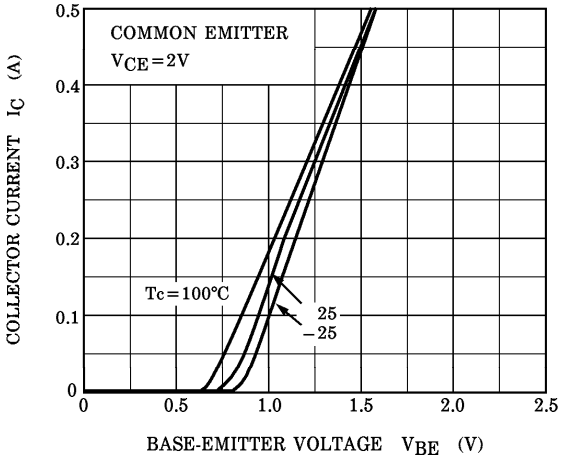
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB} = 20V, I_E = 0	—	—	1.0	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 2V, I_C = 0	—	—	10	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, I_B = 0	18	—	—	V
DC Current Gain	h_{FE}	V_{CE} = 10V, I_C = 20mA	25	—	200	
		V_{CE} = 10V, I_C = 200mA	20	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 50mA, I_B = 5mA	—	—	1.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 50mA, I_B = 5mA	—	—	1.2	V
Transition Frequency	f_T	V_{CE} = 10V, I_C = 20mA	2.0	3.5	—	GHz
Collector Output Capacitance	C_{ob}	V_{CB} = 10V, f = 1MHz, I_E = 0	—	3.3	5.0	pF
Reverse Transfer Capacitance	C_{re}	V_{CB} = 10V, f = 1MHz	—	2.0	—	pF

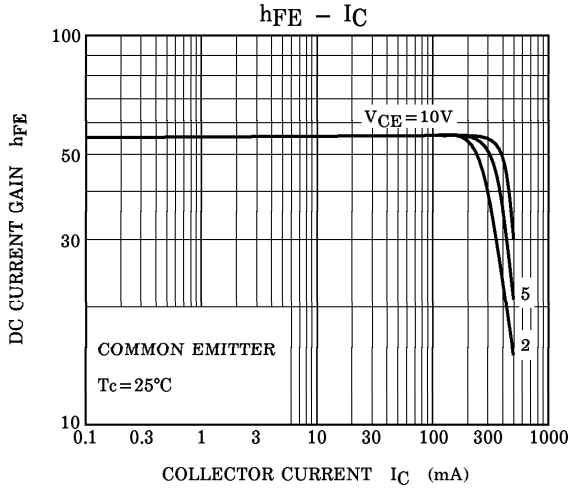
$I_C - V_{CE}$



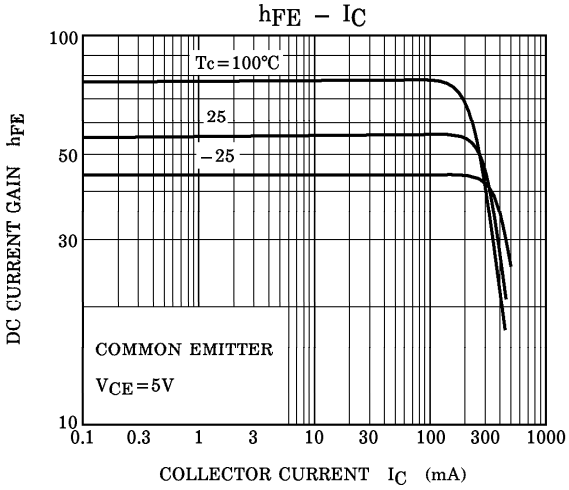
$I_C - V_{BE}$



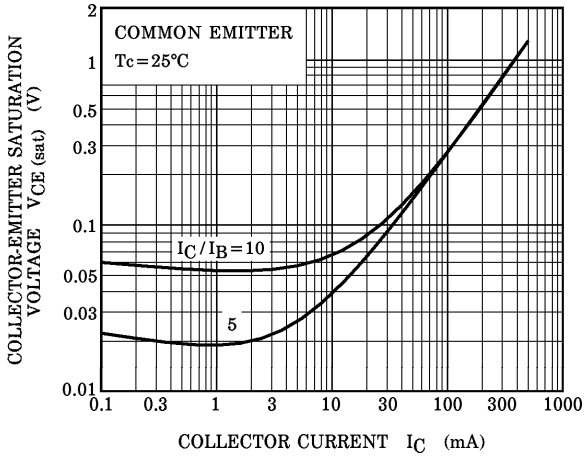
$h_{FE} - I_C$



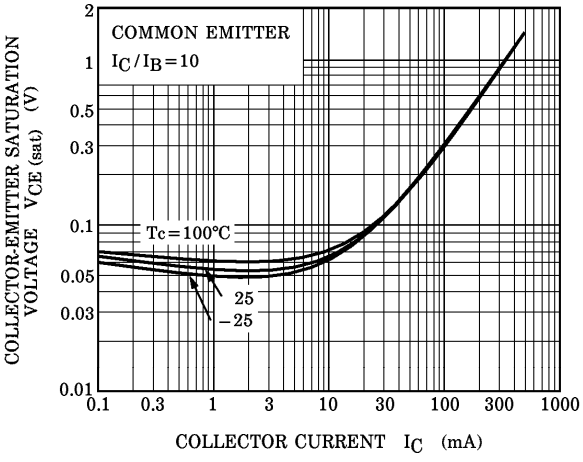
$h_{FE} - I_C$



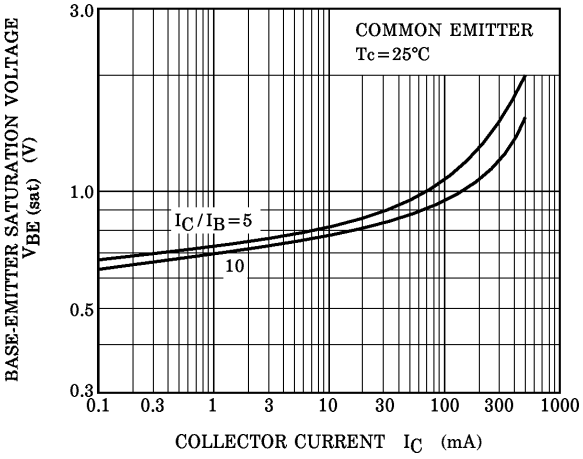
$V_{CE\,(sat)} - I_C$



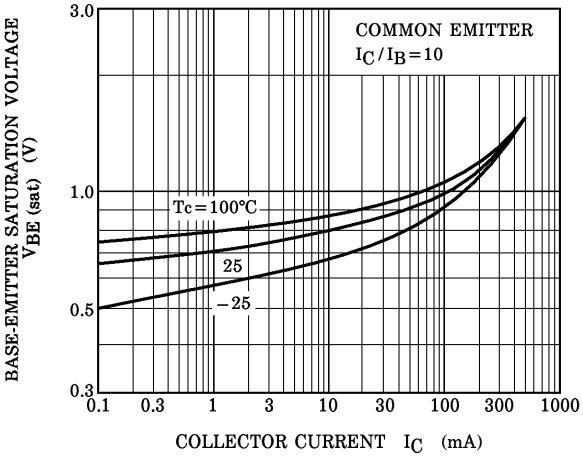
$V_{CE\,(sat)} - I_C$



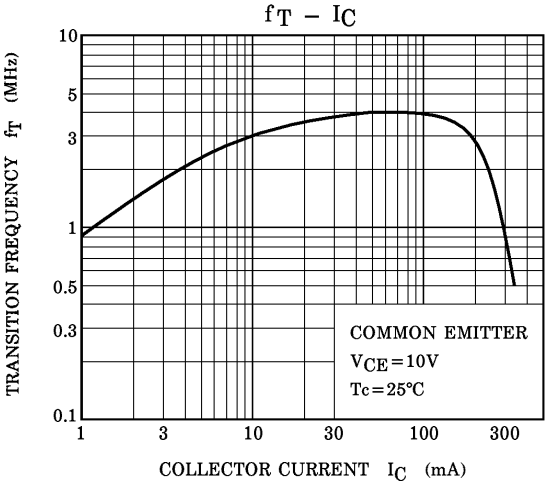
$V_{BE\,(sat)}$ – I_C



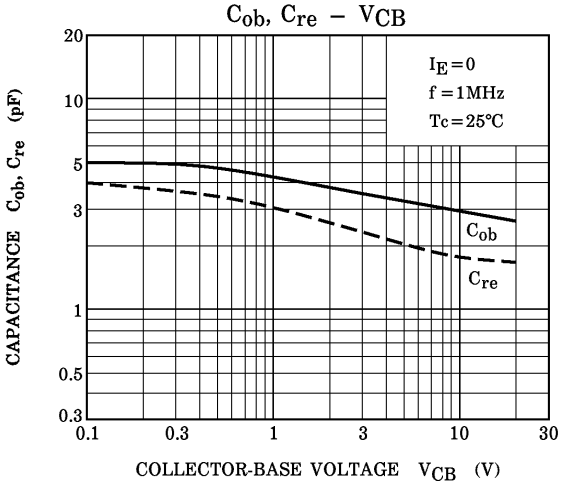
$V_{BE\,(sat)}$ – I_C



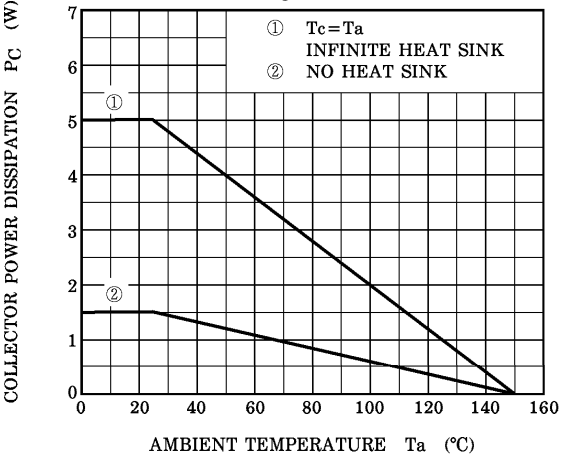
f_T – I_C



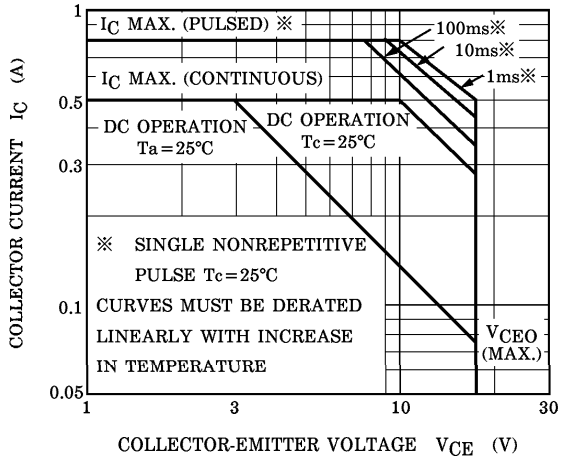
C_{ob}, C_{re} – V_{CB}



P_C – Ta



SAFE OPERATING AREA



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