

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

2SC3613

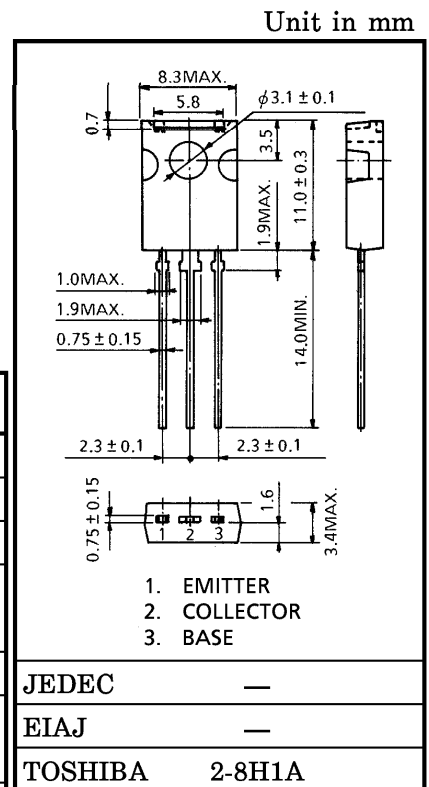
VIDEO DRIVER STAGE IN HIGH RESOLUTION DISPLAY.

HIGH SPEED SWITCHING APPLICATIONS.

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

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

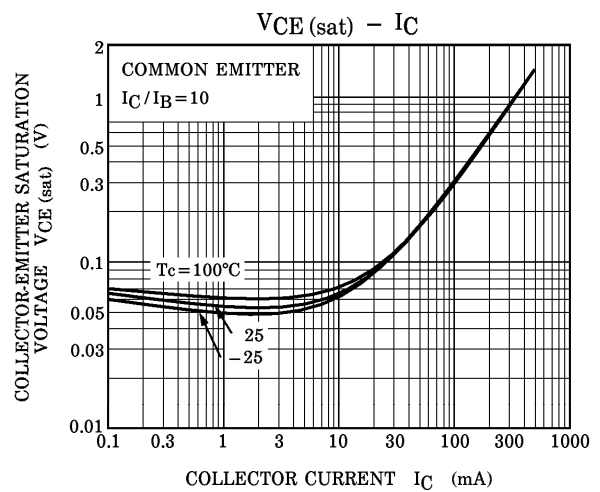
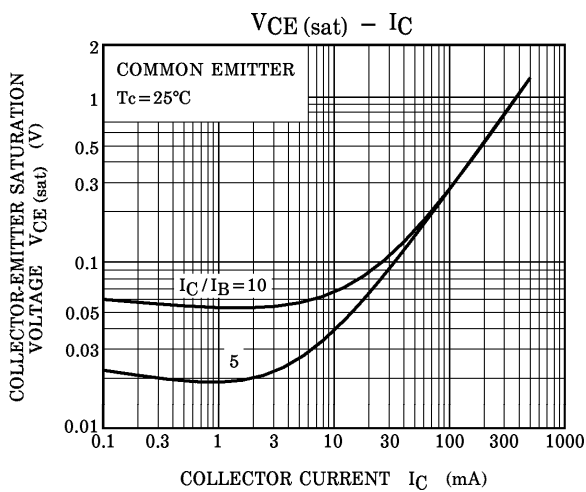
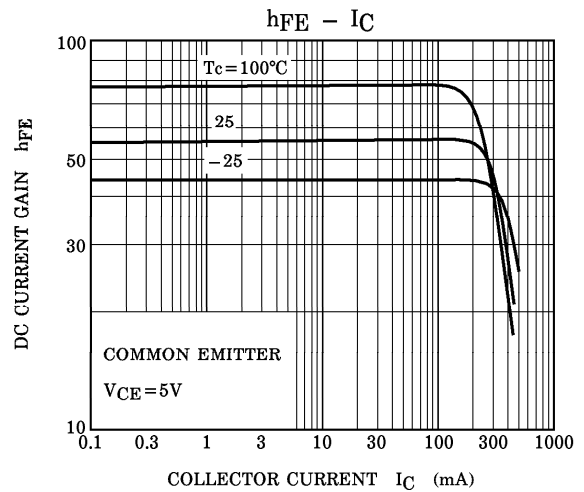
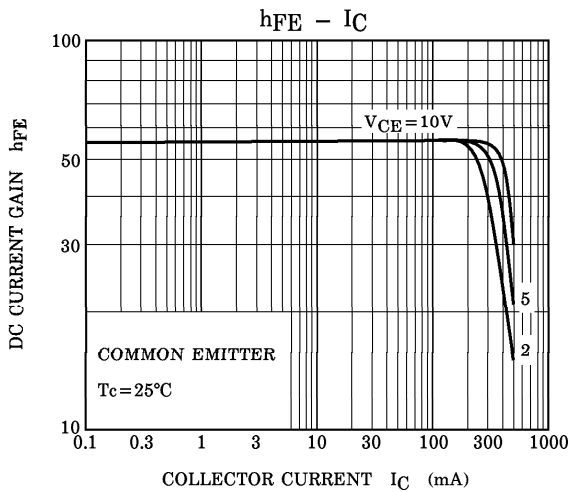
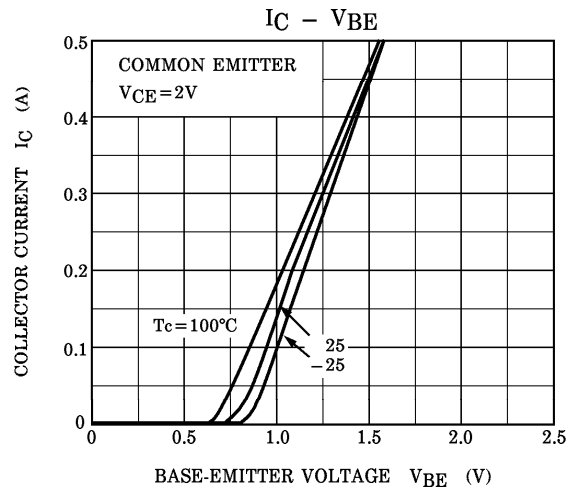
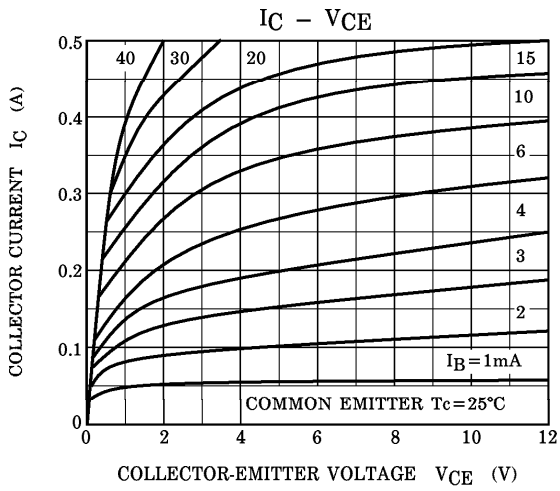
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CB0}	20	V
Collector-Emitter Voltage		V_{CEO}	18	V
Emitter-Base Voltage		V_{EBO}	3	V
Collector Current	DC	I_C	0.5	A
	Pulse	I_{CP}	0.8	
Base Current		I_B	0.2	A
Collector Power Dissipation	$T_a=25^\circ\text{C}$	P_C	1.5	W
	$T_c=25^\circ\text{C}$		5	
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-55~150	$^\circ\text{C}$

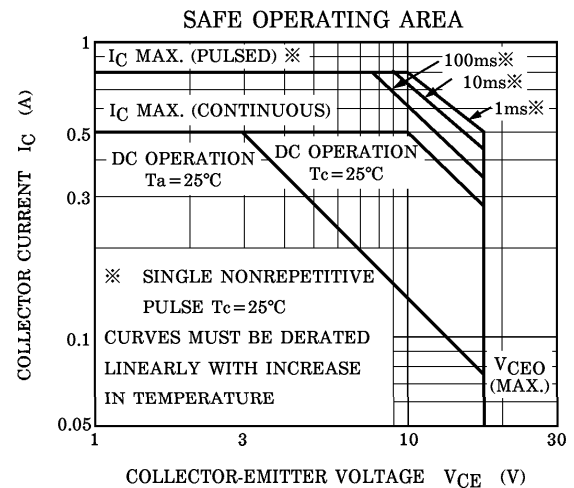
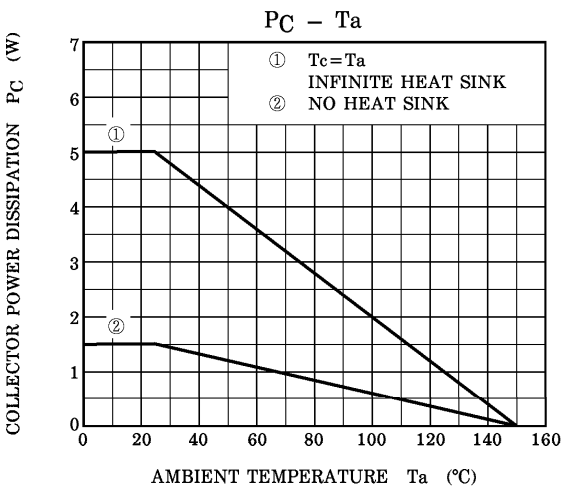
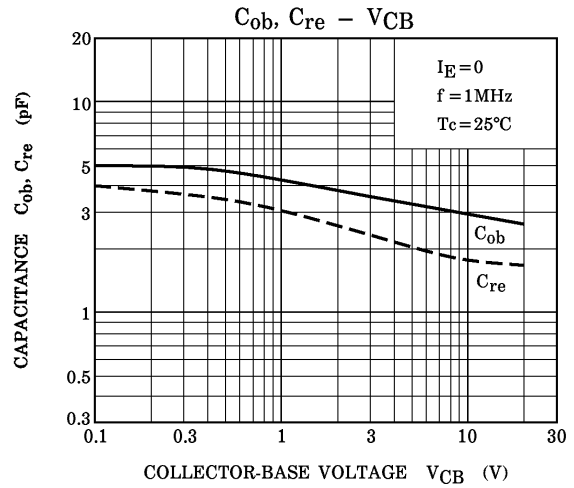
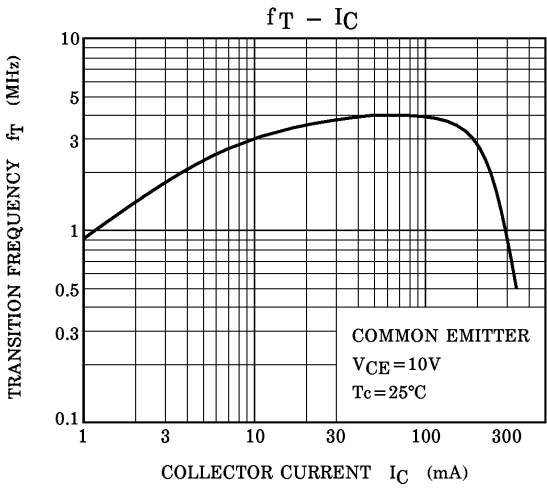
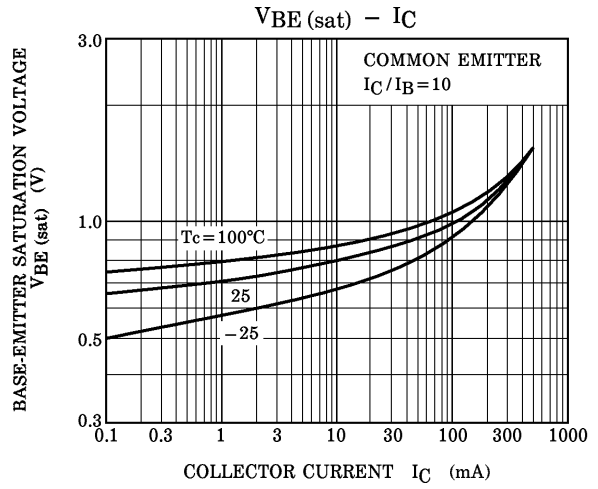
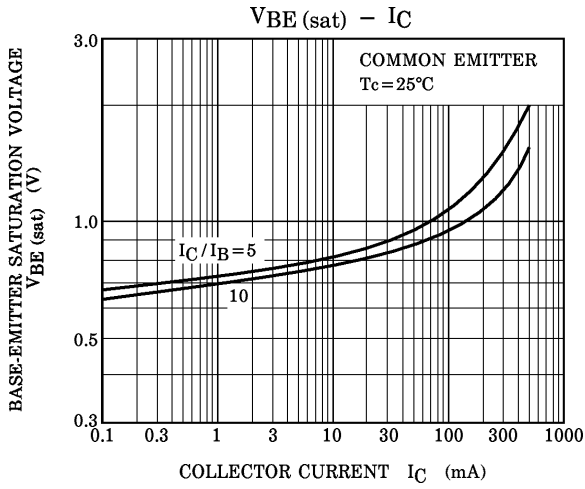


Weight : 0.82g

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

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





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