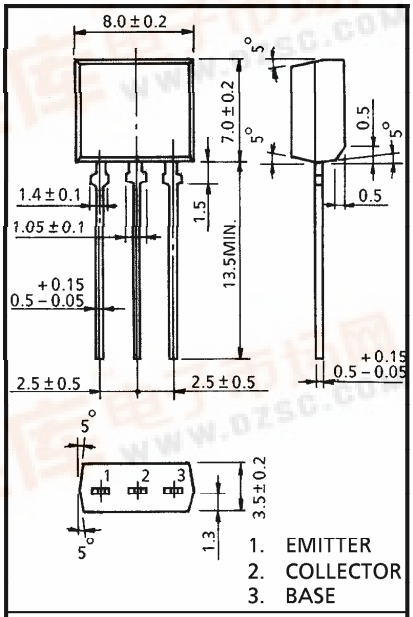
TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SC5351

HIGH SPEED SWITCHING APPLICATIONS FOR BATTERY CHARGER AND POWER SUPPLY

- High Voltage : V_{CEO} = 450V
- High Speed : t_r = 0.5μs (Max.), t_f = 0.3μs (Max.) (I_C = 0.8A)

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-8M1A

Weight : 0.55g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	650	V
Collector-Emitter Voltage		V_{CEO}	450	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	2	A
	Pulse	I_{CP}	4	
Base Current		I_B	0.5	A
Collector Power Dissipation		P_C	1.3	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

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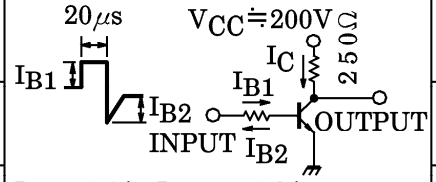
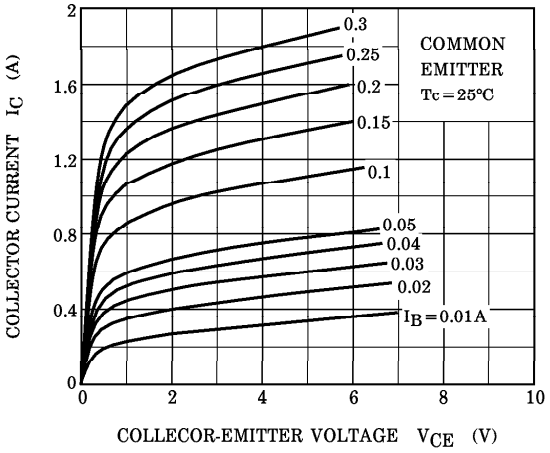
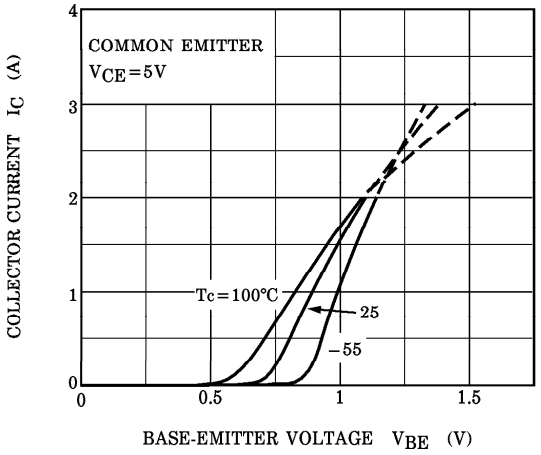
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB} = 520V, I_E = 0	—	—	20	μA
Emitter Cut-off Current		I_{EBO}	V_{EB} = 7V, I_C = 0	—	—	10	μA
Collector-Base Breakdown Voltage		$V_{(BR)\,CBO}$	I_C = 1mA, I_E = 0	650	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)\,CEO}$	I_E = 10mA, I_C = 0	450	—	—	V
DC Current Gain		$h_{FE\,(1)}$	V_{CE} = 5V, I_C = 1mA	13	—	—	—
		$h_{FE\,(2)}$	V_{CE} = 5V, I_C = 0.2A	20	—	65	
Collector-Emitter Saturation Voltage		$V_{CE\,(sat)}$	I_C = 0.8A, I_B = 0.1A	—	—	1.0	V
Base-Emitter Saturation Voltage		$V_{BE\,(sat)}$	I_C = 0.8A, I_B = 0.1A	—	—	1.3	V
Switching Time	Rise Time	t_r	 I_{B1} = 0.1A, I_{B2} = −0.2A DUTY CYCLE ≦ 1%	—	—	0.5	μs
	Storage Time	t_{stg}		—	—	2.0	
	Fall Time	t_f		—	—	0.3	

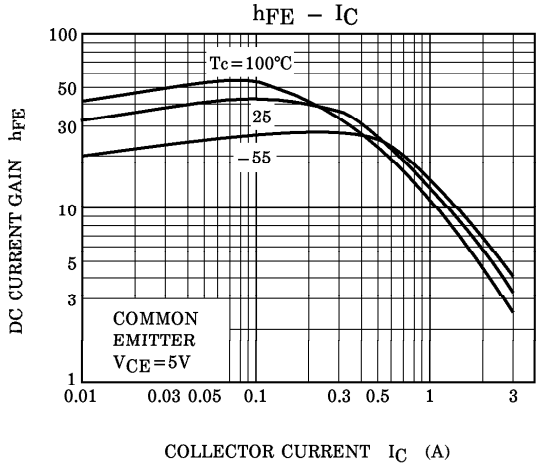
I_C – V_{CE}



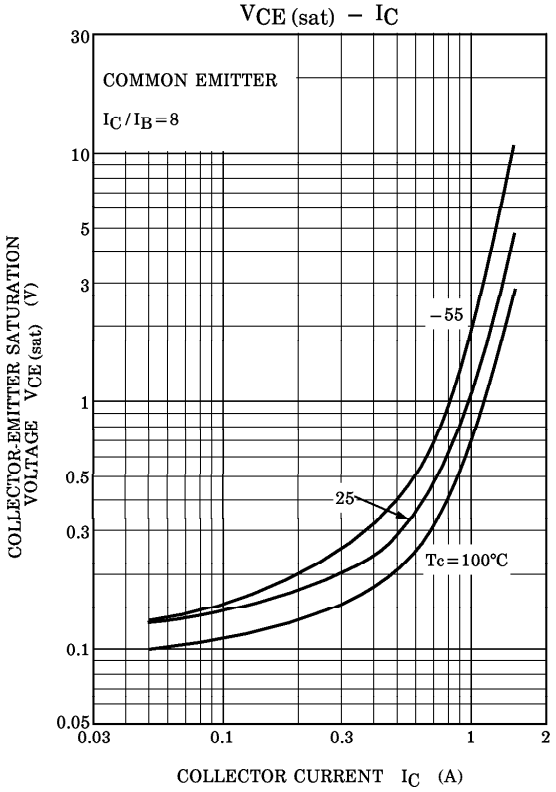
I_C – V_{BE}



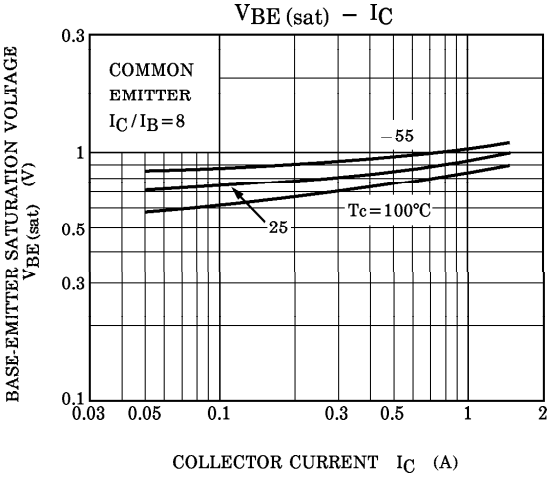
h_{FE} – I_C



$V_{CE\,(sat)}$ – I_C



$V_{BE\,(sat)}$ – I_C



SAFE OPERATING AREA