

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

## 2SC5075

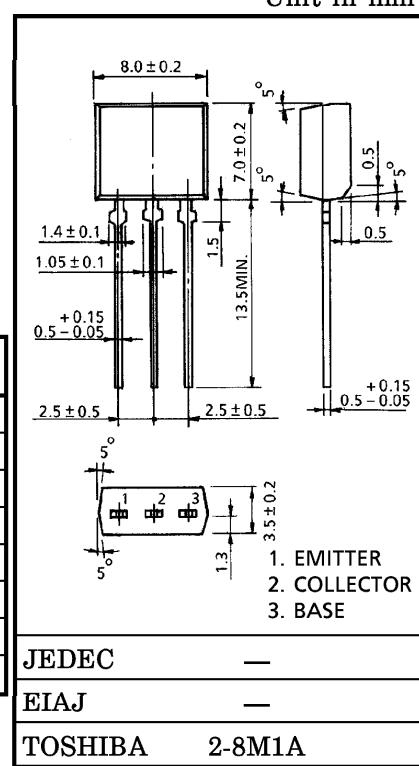
SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING  
APPLICATIONS

## HIGH SPEED DC-DC CONVERTER APPLICATIONS

- High Speed Switching  
:  $t_r = 1.0\ \mu\text{s}$  (Max.),  $t_f = 1.0\ \mu\text{s}$  (Max.)
- High Collector Breakdown Voltage :  $V_{CEO} = 400\text{V}$

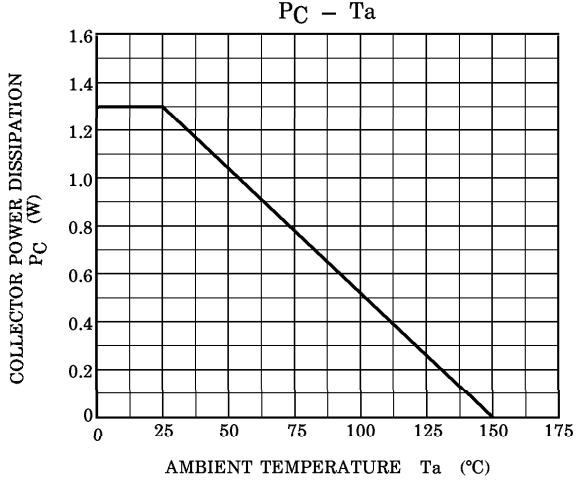
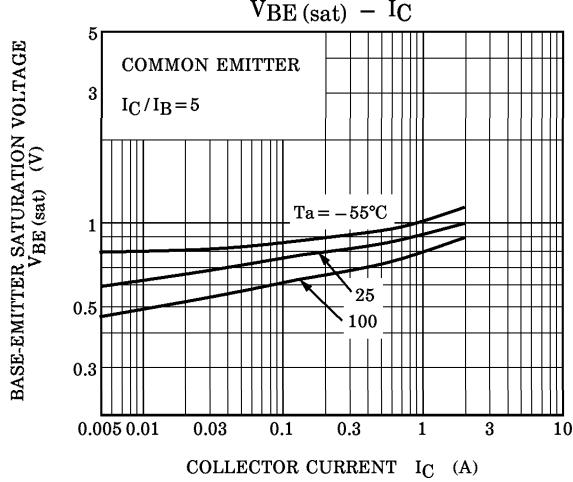
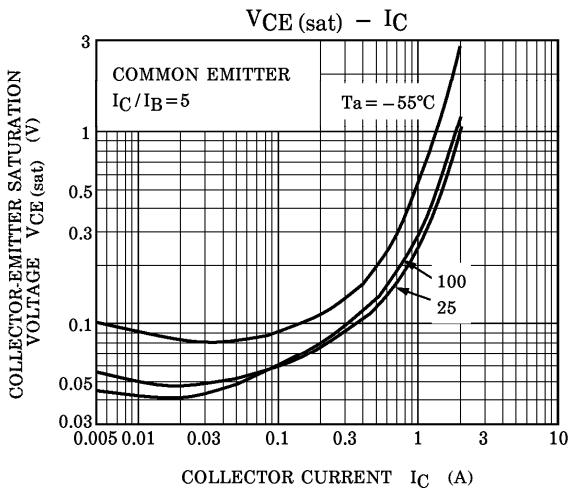
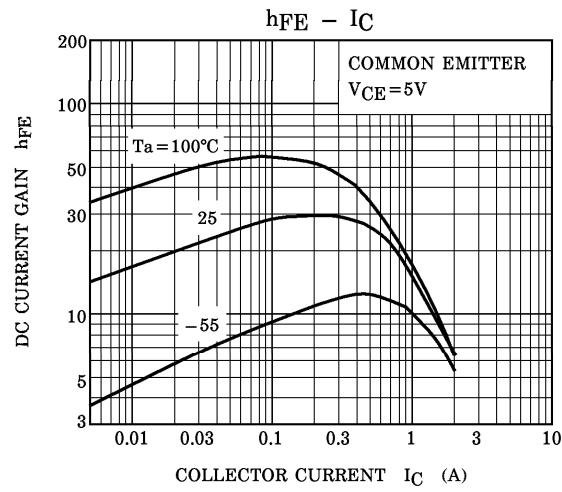
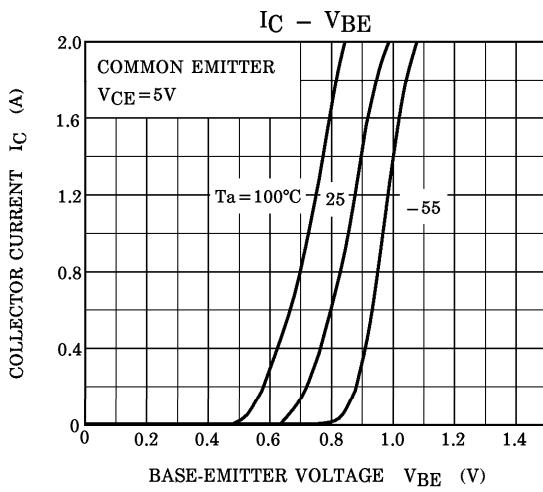
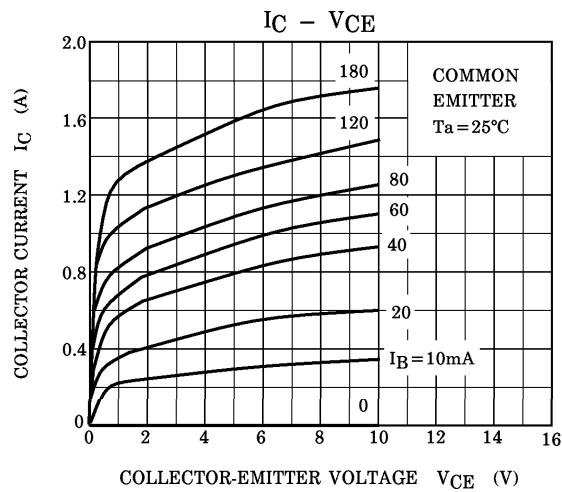
MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

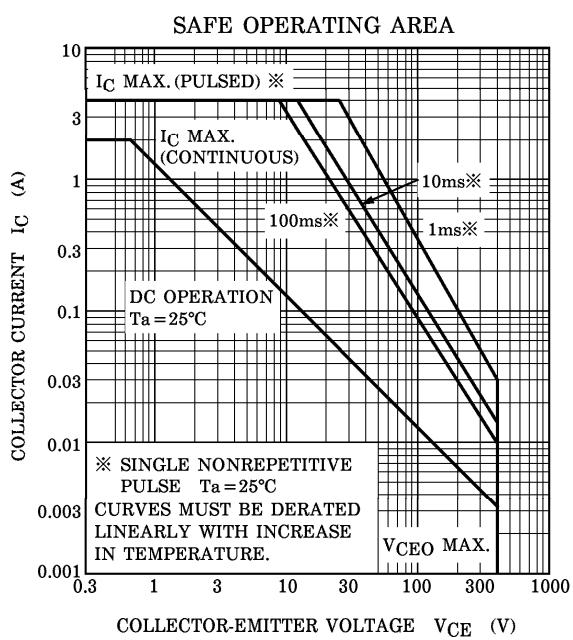
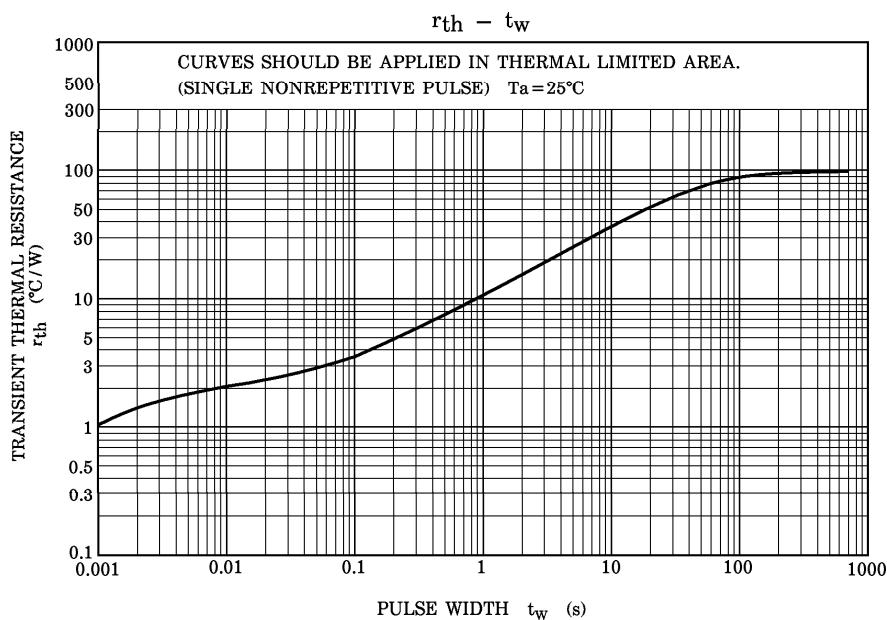
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	500	V
Collector-Emitter Voltage	$V_{CEO}$	400	V
Emitter-Base Voltage	$V_{EBO}$	7	V
Collector Current	$I_C$	2	A
Base Current	$I_B$	0.5	A
Collector Power Dissipation	$P_C$	1.3	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

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

Weight : 0.55g (Typ.)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 400\text{V}$ , $I_E = 0$	—	—	100	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 7\text{V}$ , $I_C = 0$	—	—	1	mA
Collector-Base Breakdown Voltage	$V_{(BR) CBO}$	$I_C = 1\text{mA}$ , $I_E = 0$	500	—	—	V
Collector-Emitter Breakdown Voltage	$V_{(BR) CEO}$	$I_C = 10\text{mA}$ , $I_B = 0$	400	—	—	V
DC Current Gain	$h_{FE} (1)$	$V_{CE} = 5\text{V}$ , $I_C = 0.1\text{A}$	20	—	—	
	$h_{FE} (2)$	$V_{CE} = 5\text{V}$ , $I_C = 1\text{A}$	8	—	—	
Saturation Voltage	Collector-Emitter	$V_{CE} (\text{sat})$	$I_C = 1\text{A}$ , $I_B = 0.2\text{A}$	—	—	1.0
	Base-Emitter	$V_{BE} (\text{sat})$	$I_C = 1\text{A}$ , $I_B = 0.2\text{A}$	—	—	1.5
Switching Time	Rise Time	$t_r$	$20\ \mu\text{s}$	$I_{B1}$	$I_{B2}$	OUTPUT
	Storage Time	$t_{stg}$	$I_{B1}$	$I_{B2}$	$I_{B2}$	$250\ \Omega$
	Fall Time	$t_f$	$I_{B1} = -I_{B2} = 0.08\text{A}$	$I_{B2}$	$I_{B2}$	$250\ \Omega$
			$I_{B1} = -I_{B2} = 0.08\text{A}$	$I_{B2}$	$I_{B2}$	$250\ \Omega$
			$DUTY\ CYCLE < 1\%$	$V_{CC} = 200\text{V}$		





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