

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SC3376

SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS.

INDUSTRIAL APPLICATIONS

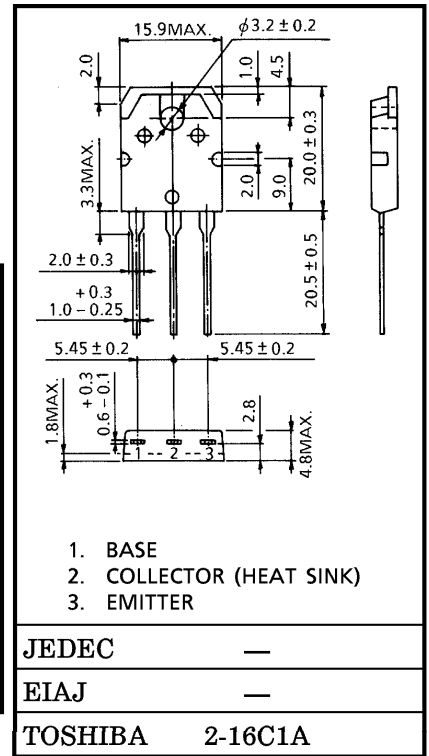
Unit in mm

HIGH SPEED DC-DC CONVERTER APPLICATIONS.

- Excellent Switching Times ($I_C=0.8A$)
: $t_r=1.0\mu s$ (Max.), $t_f=1.0\mu s$ (Max.)
- High Collector-Emitter Breakdown Voltage : $V_{CEO}=800V$

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	900	V
Collector-Emitter Voltage		V_{CEO}	800	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	3	A
	Pulse	I_{CP}	5	
Base Current		I_B	1	A
Collector Power Dissipation ($T_c=25^\circ C$)		P_C	60	W
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$

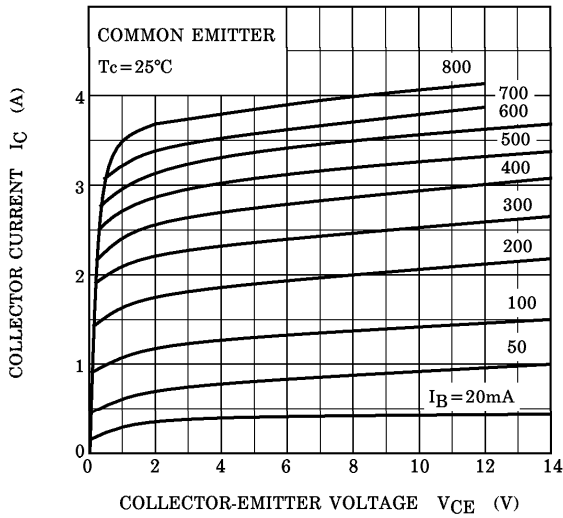


Weight : 4.7g

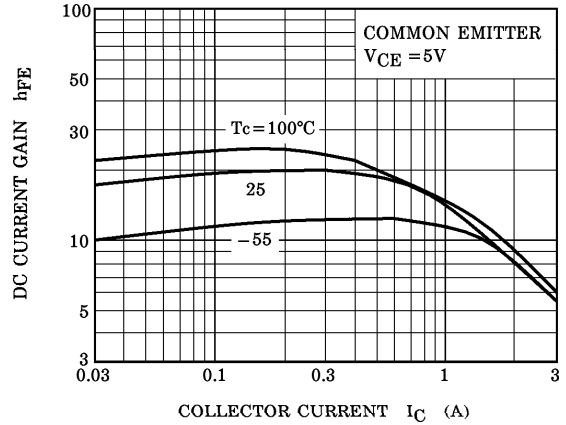
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=800V, I_E=0$	—	—	100	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=7V, I_C=0$	—	—	1	mA
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	900	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	800	—	—	V
DC Current Gain		h_{FE}	$V_{CE}=5A, I_C=0.8A$	10	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=0.8A, I_B=0.16A$	—	—	0.6	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=0.8A, I_B=0.16A$	—	—	1.2	V
Switching Time	Rise Time	t_r	<p>$20\mu s$ $V_{CC}=400V$ 500Ω INPUT OUTPUT $I_{B1}=0.08A$ $I_{B2}=-0.20A$ DUTY CYCLE $\leq 1\%$</p>	—	—	1.0	μs
	Storage Time	t_{stg}		—	—	4.0	
	Fall Time	t_f		—	—	1.0	

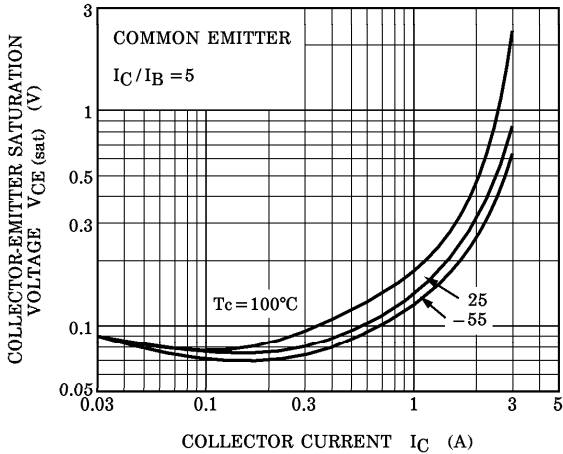
$I_C - V_{CE}$



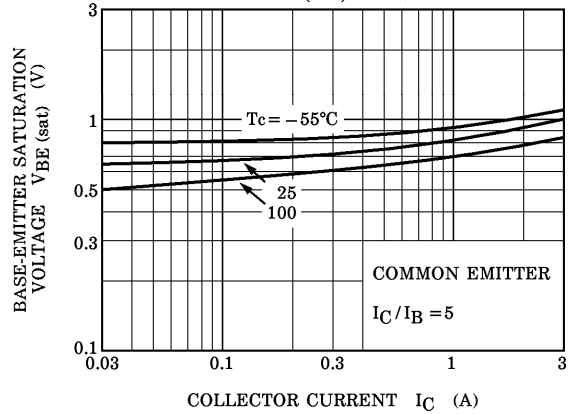
$h_{FE} - I_C$



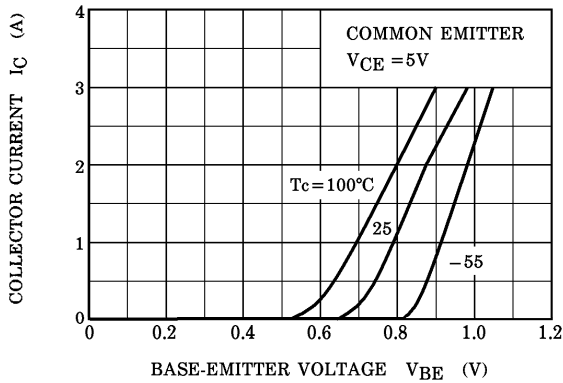
$V_{CE(sat)} - I_C$



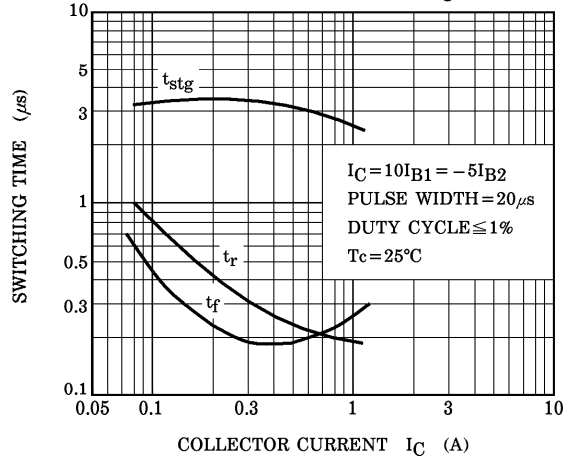
$V_{BE(sat)} - I_C$

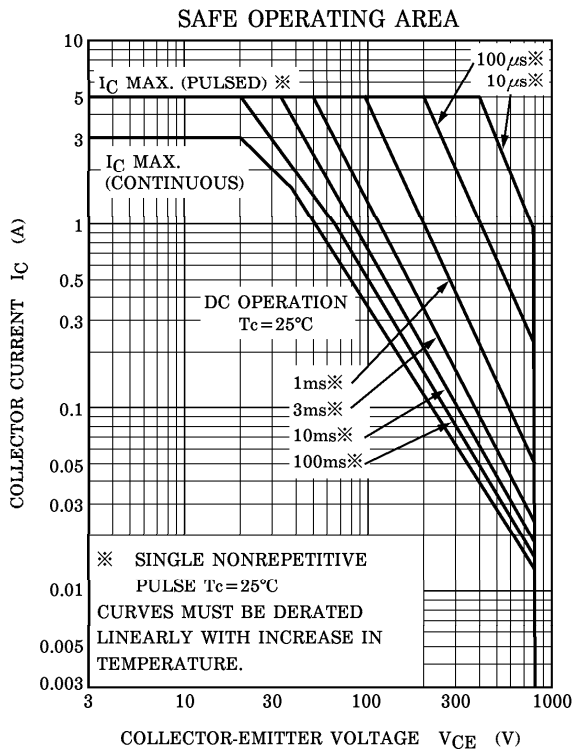
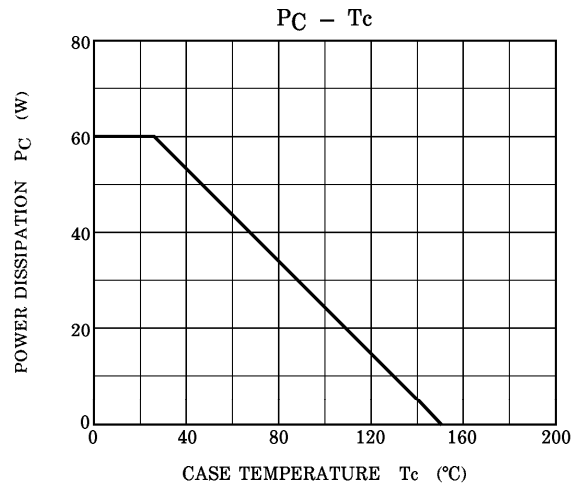
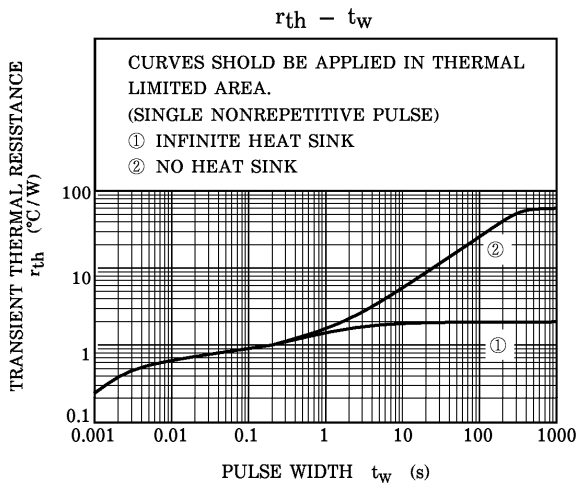


$I_C - V_{BE}$



SWITCHING TIME - I_C





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