TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SC5439

SWITCHING REGULATOR APPLICATIONS

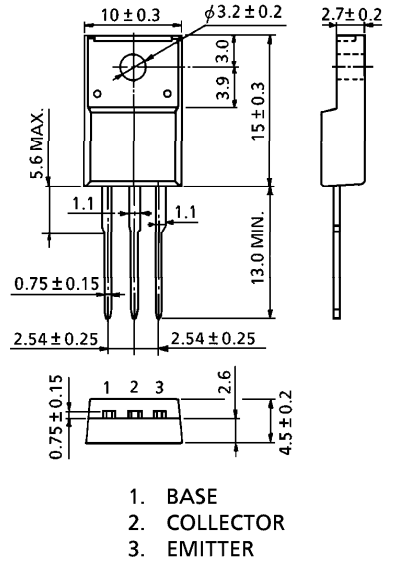
HIGH VOLTAGE SWITCHING APPLICATIONS

DC-DC CONVERTER APPLICATIONS

INVERTER LIGHTING APPLICATIONS

- Excellent Switching Times : $t_r = 0.2\ \mu s$ (Typ.), $t_f = 0.15\ \mu s$ (Typ.)
- High Collector Breakdown Voltage : $V_{CEO} = 450$ V

Unit in mm



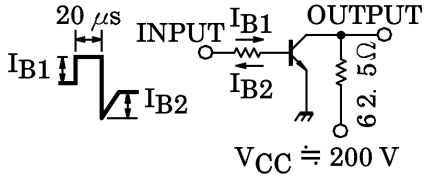
JEDEC	—
JEITA	SC-67
TOSHIBA	2-10R1A

Weight : 1.7 g (Typ.)

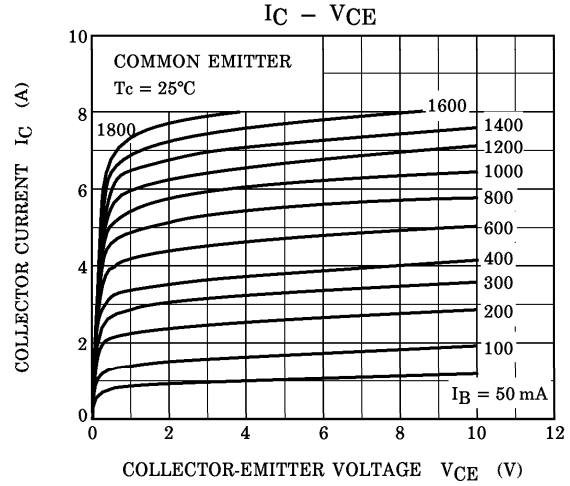
MAXIMUM RATINGS (Tc = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	1000	V
Collector-Emitter Voltage		V_{CEO}	450	V
Emitter-Base Voltage		V_{EBO}	9	V
Collector Current	DC	I_C	8	A
	Pulse	I_{CP}	16	
Base Current		I_B	1	A
Collector Power Dissipation	Ta = 25°C	P_C	2.0	W
	Tc = 25°C		30	
Junction Temperature		T_j	150	°C
Storage Temperature Range		Tstg	−55~150	°C

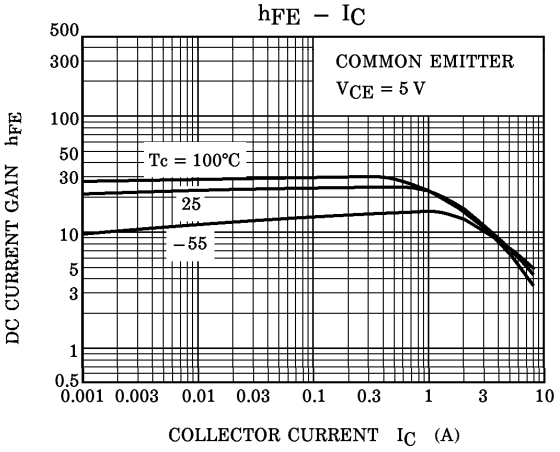
ELECTRICAL CHARACTERISTICS (Tc = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 1000$ V, $I_E = 0$	—	—	100	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 7$ V, $I_C = 0$	—	—	10	μA
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C = 1$ mA, $I_E = 0$	1000	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10$ mA, $I_B = 0$	450	—	—	V
DC Current Gain		h_{FE} (1)	$V_{CE} = 5$ V, $I_C = 1$ mA	10	—	—	
		h_{FE} (2)	$V_{CE} = 5$ V, $I_C = 1$ A	14	—	34	
Collector-Emitter Saturation Voltage		$V_{CE\ (sat)}$	$I_C = 3.2$ A, $I_B = 0.64$ A	—	—	1.0	V
Base-Emitter Saturation Voltage		$V_{BE\ (sat)}$	$I_C = 3.2$ A, $I_B = 0.64$ A	—	—	1.5	V
Switching Time	Turn-on Time	t_{on}		—	0.2	—	μs
	Storage Time	t_{stg}		—	2.0	3.5	
	Fall Time	t_f	$I_{B1} = 0.64$ A, $I_{B2} = -1.28$ A DUTY CYCLE ≦ 1%	—	0.15	—	

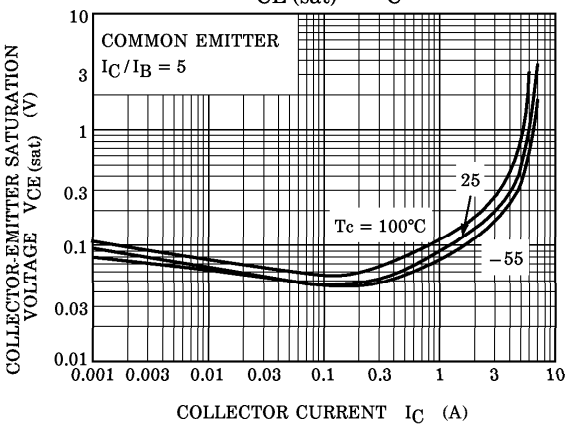
I_C – V_{CE}



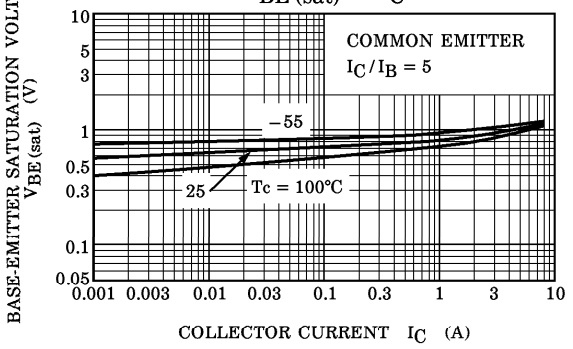
h_{FE} – I_C



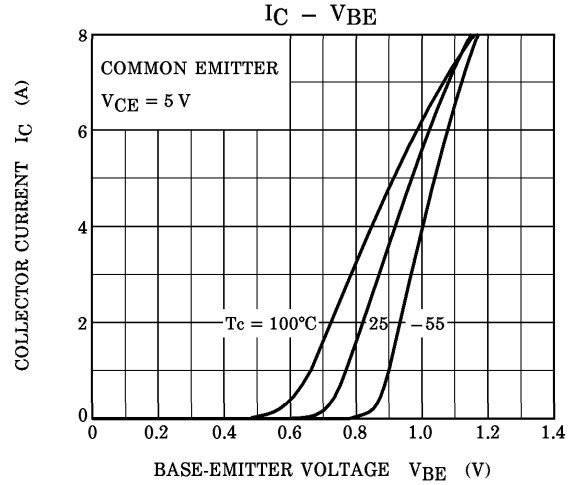
$V_{CE\,(sat)}$ – I_C



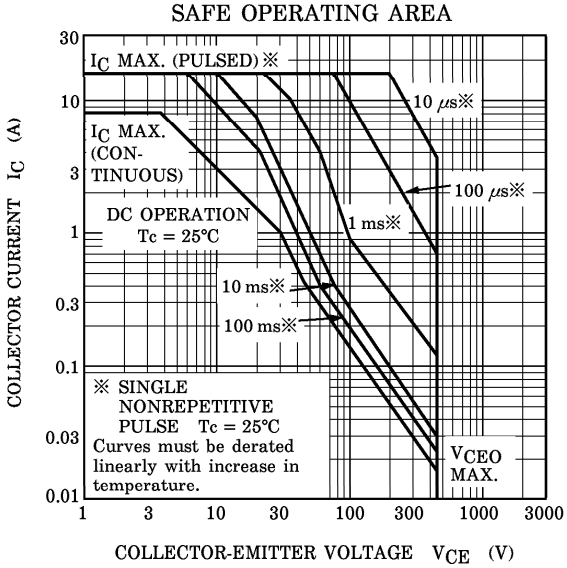
$V_{BE\,(sat)}$ – I_C



I_C – V_{BE}



SAFE OPERATING AREA



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