

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SC5439

SWITCHING REGULATOR APPLICATIONS

HIGH VOLTAGE SWITCHING APPLICATIONS

DC-DC CONVERTER APPLICATIONS

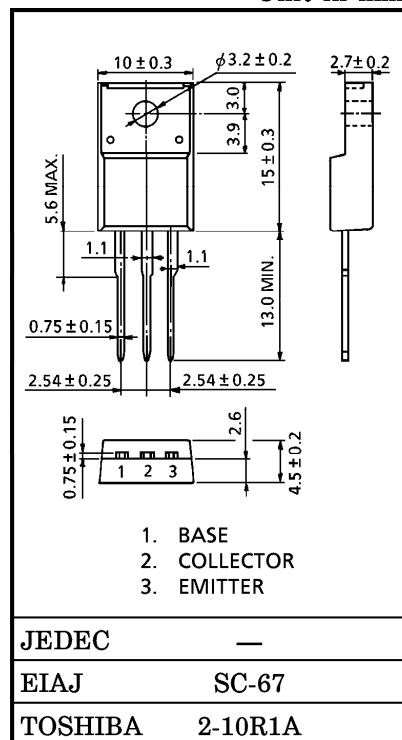
INVERTER LIGHTING APPLICATIONS

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

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

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	$T_a = 25^\circ C$	P_C	2.0	W
Dissipation	$T_c = 25^\circ C$		30	
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$

Unit in mm



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 1000\text{ V}, I_E = 0$	—	—	100	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 7\text{ V}, I_C = 0$	—	—	10	μA
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C = 1\text{ mA}, I_E = 0$	1000	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	450	—	—	V
DC Current Gain		$h_{FE}(1)$	$V_{CE} = 5\text{ V}, I_C = 1\text{ mA}$	10	—	—	
		$h_{FE}(2)$	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	14	—	34	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 3.2\text{ A}, I_B = 0.64\text{ A}$	—	—	1.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 3.2\text{ A}, I_B = 0.64\text{ A}$	—	—	1.5	V
Switching Time	Turn-on Time	t_{on}	<p> $20\ \mu\text{s}$ I_{B1} INPUT I_{B1} I_{B2} $V_{CC} \doteq 200\text{ V}$ $I_{B1} = 0.64\text{ A}, I_{B2} = 1.28\text{ A}$ $DUTY\ CYCLE \leq 1\%$ </p>	—	0.2	—	μs
	Storage Time	t_{stg}		—	2.0	3.5	
	Fall Time	t_f		—	0.15	—	

