

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (DARLINGTON POWER)

2SD1409A

IGNITER APPLICATIONS.

HIGH VOLTAGE SWITCHING APPLICATIONS.

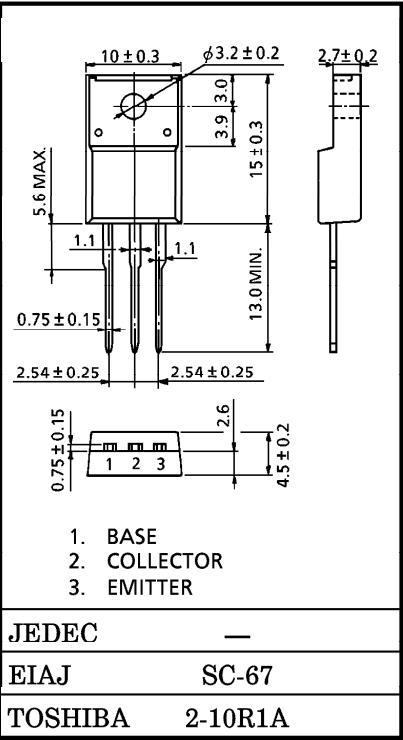
- High DC Current Gain : $h_{FE}=600$ (Min.) ($V_{CE}=2V$, $I_C=2A$)
- Monolithic Construction with Built-In Base-Emitter Shunt Resistor.

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	600	V
Collector-Emitter Voltage		V_{CEO}	400	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current		I_C	6	A
Base Current		I_B	1	A
Collector Power Dissipation	$T_a = 25^{\circ}C$	P_C	2.0	W
	$T_c = 25^{\circ}C$		25	
Junction Temperature		T_j	150	$^{\circ}C$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$^{\circ}C$

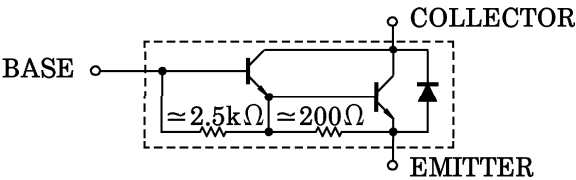
INDUSTRIAL APPLICATIONS

Unit in mm



Weight : 1.7g

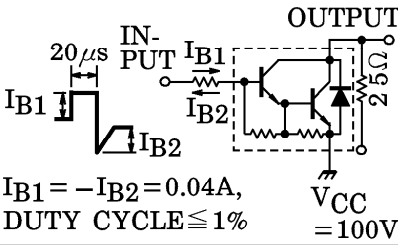
EQUIVALENT CIRCUIT



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 600V, I_E = 0$	—	—	0.5	mA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 5V, I_C = 0$	—	—	3	mA
Collector-Emitter Breakdown Voltage		$V_{(BR)CBO}$	$I_C = 10mA, I_B = 0$	400	—	—	V
DC Current Gain		$h_{FE}(1)$	$V_{CE} = 2V, I_C = 2A$	600	—	—	
		$h_{FE}(2)$	$V_{CE} = 2V, I_C = 4A$	100	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 4A, I_B = 0.04A$	—	—	2.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 4A, I_B = 0.04A$	—	—	2.5	V
Emitter-Collector Forward Voltage		V_{ECF}	$I_E = 4A, I_B = 0$	—	—	3.0	V
Collector Output Capacitance		C_{ob}	$V_{CB} = 50V, I_E = 0, f = 1MHz$	—	35	—	pF
Switching Time	Turn-on Time	t_{on}	 $I_{B1} = -I_{B2} = 0.04A$, DUTY CYCLE $\leq 1\%$ $V_{CC} = 100V$	—	1	—	μs
	Storage Time	t_{stg}		—	8	—	
	Fall Time	t_f		—	5	—	

