

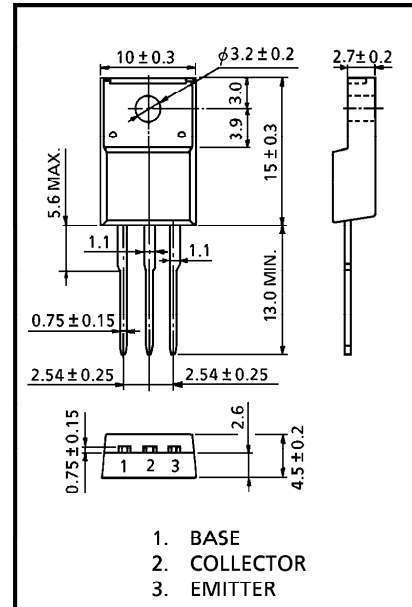
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

2SD2241

SWITCHING APPLICATIONS

- High DC Current Gain : $h_{FE} = 2000$ (Min.)
- Low Saturation Voltage : $V_{CE(sat)} = 1.5V$ (Max.)
- Complementary to 2SB1481

Unit in mm



1. BASE
2. COLLECTOR
3. EMITTER

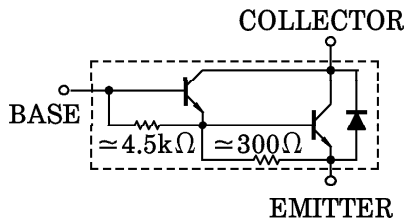
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	100	V
Collector-Emitter Voltage		V_{CEO}	100	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current	DC	I_C	± 4	A
	Pulse	I_{CP}	± 6	
Base Current		I_B	0.3	A
Collector Power Dissipation	Ta = 25°C	P_C	2.0	W
	Tc = 25°C		25	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-55~150	°C

JEDEC	—
EIAJ	SC-67
TOSHIBA	2-10R1A

Weight : 1.7g (Typ.)

EQUIVALENT CIRCUIT



961001EAA2

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} = 100V, I _E = 0	—	—	20	μA
Emitter Cut-off Current		I _{EBO}	V _{EB} = 5V, I _C = 0	—	—	2.5	mA
Collector-Emitter Breakdown Voltage		V (BR) CEO	I _C = 10mA, I _B = 0	100	—	—	V
DC Current Gain		h _{FE} (1)	V _{CE} = 2V, I _C = 1.5A	2000	—	—	
		h _{FE} (2)	V _{CE} = 2V, I _C = 3A	1000	—	—	
Collector-Emitter Saturation Voltage		V _{CE} (sat)	I _C = 3A, I _B = 6mA	—	—	1.5	V
Base-Emitter Saturation Voltage		V _{BE} (sat)	I _C = 3A, I _B = 6mA	—	—	2.0	V
Emitter-Collector Forward Voltage		V _{ECF}	I _E = 1A, I _B = 0	—	—	2.0	V
Switching Time	Turn-on Time	t _{on}	<p>INPUT I_{B1} I_{B2} OUTPUT $V_{CC} = 30V$ 10Ω</p> <p>20 μs</p> <p>$I_{B1} = -I_{B2} = 6mA$, DUTY CYCLE ≤ 1%</p>	—	0.2	—	μs
	Storage Time	t _{stg}		—	1.5	—	
	Fall Time	t _f		—	0.6	—	

