

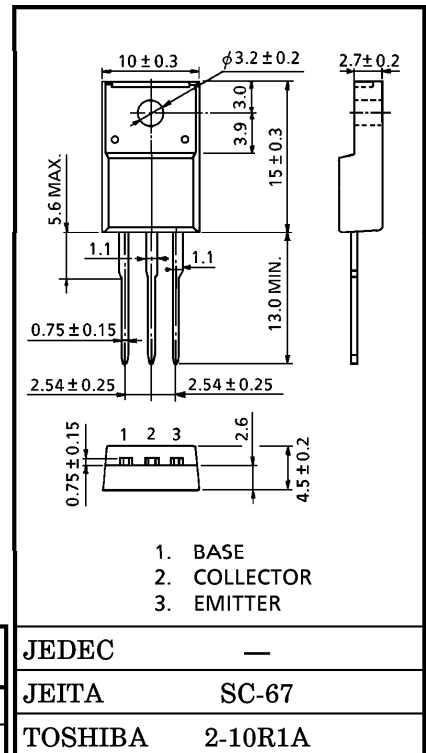
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

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



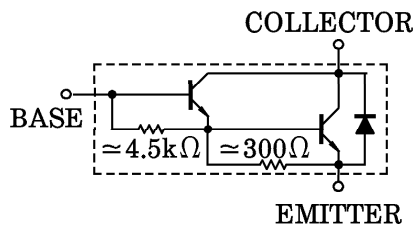
MAXIMUM RATINGS ($T_c = 25^\circ C$)

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

JEDEC	—
JEITA	SC-67
TOSHIBA	2-10R1A

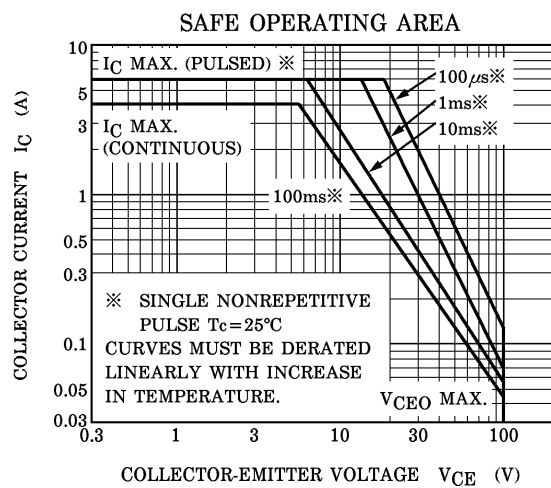
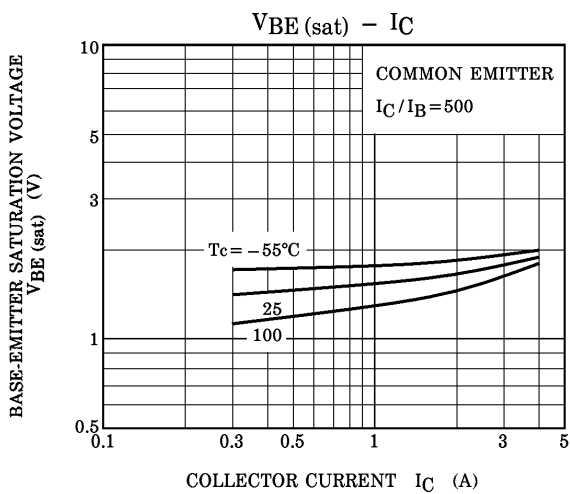
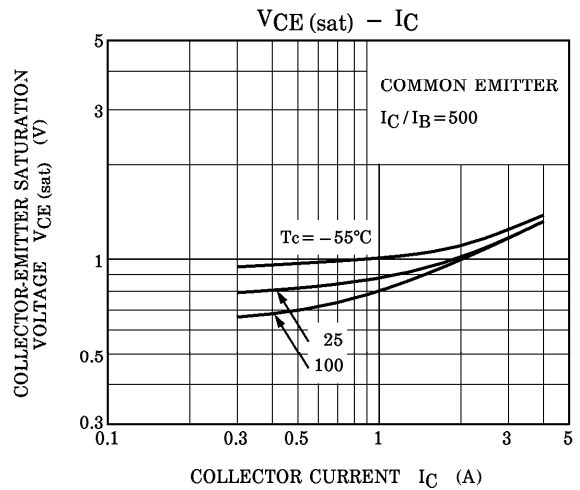
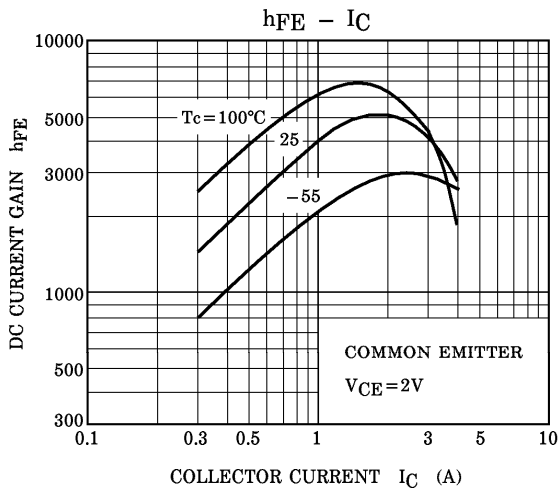
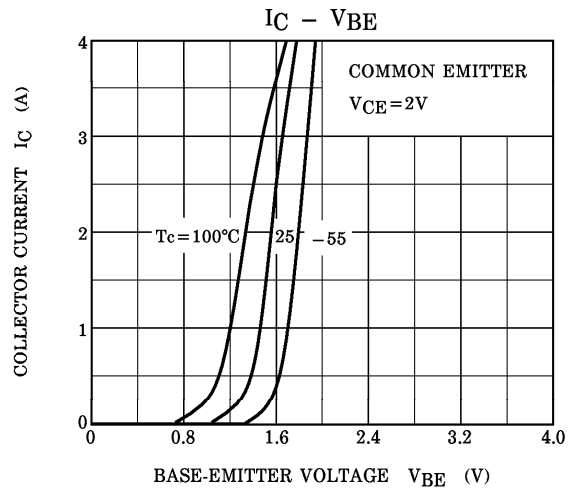
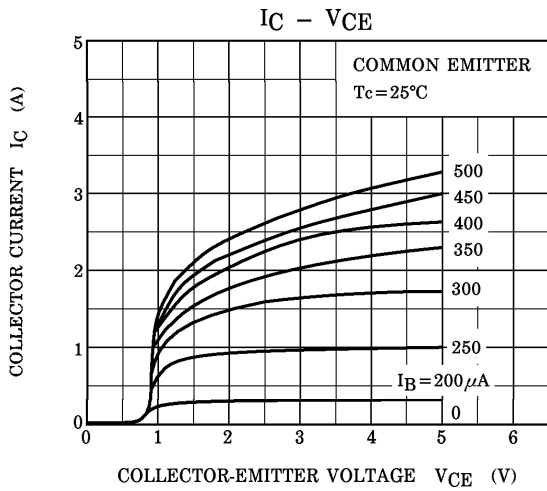
Weight : 1.7g (Typ.)

EQUIVALENT CIRCUIT



ELECTRICAL CHARACTERISTICS (T_c = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I _{CB0}	V _{CB} = 100V, I _E = 0	—	—	20	μA
Emitter Cut-off Current		I _{EB0}	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</p> <p>OUTPUT</p> <p>10Ω</p> <p>V_{CC} = 30V</p> <p>20 μs</p> <p>I_{B1}</p> <p>I_{B2}</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	—	



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