

TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SD2414(SM)

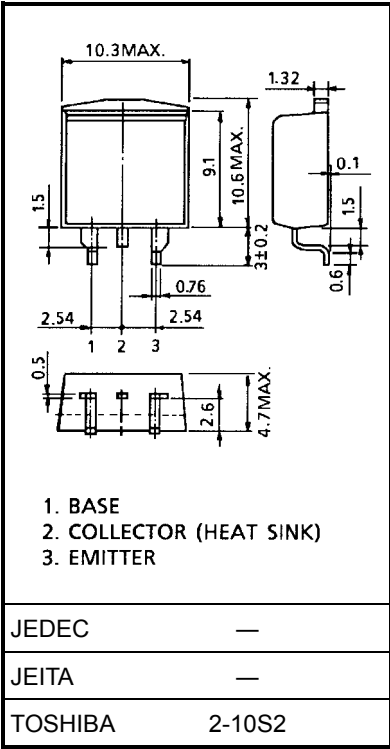
High Current Switching Applications
Power Amplifier Applications

- Low collector saturation voltage: $V_{CE(sat)} = 0.5\text{ V (max)}$ (at $I_C = 4\text{ A}$)

Maximum Ratings (Ta = 25°C)

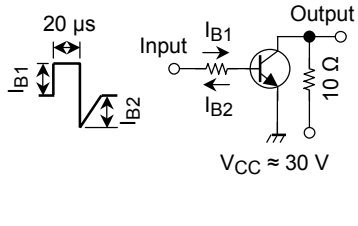
Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	100	V
Collector-emitter voltage		V_{CEO}	80	V
Emitter-base voltage		V_{EBO}	5	V
Collector current		I_C	7	A
Base current		I_B	1	A
Collector power dissipation	Ta = 25°C	P_C	1.5	W
	Tc = 25°C		40	
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	-55 to 150	°C

Unit: mm

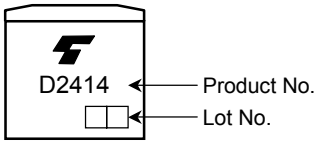


Weight: 1.4 g (typ.)

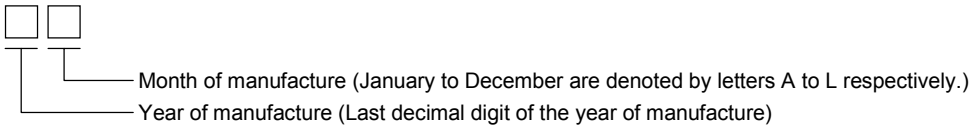
Electrical Characteristics (Ta = 25°C)

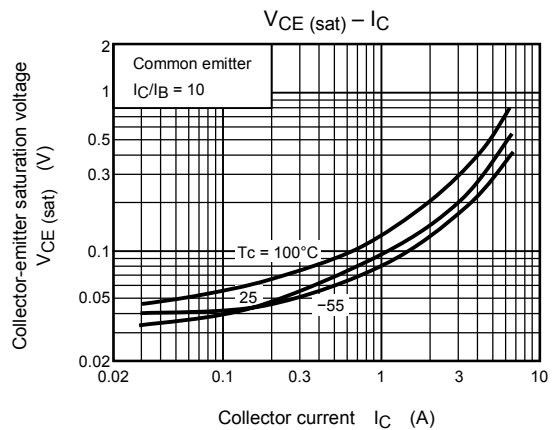
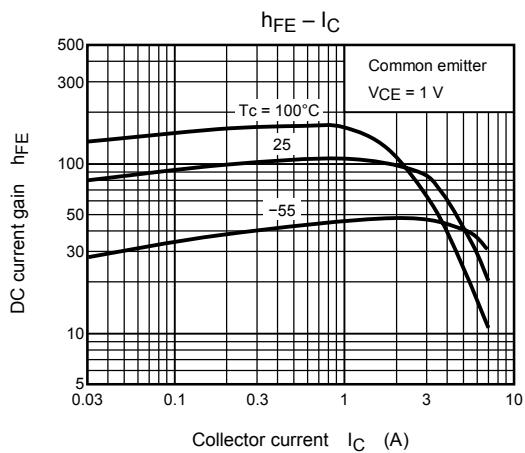
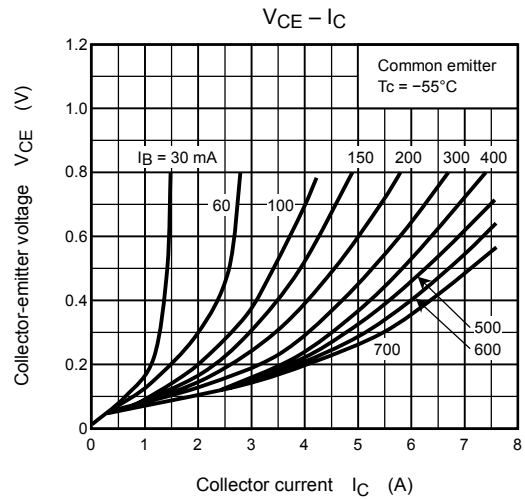
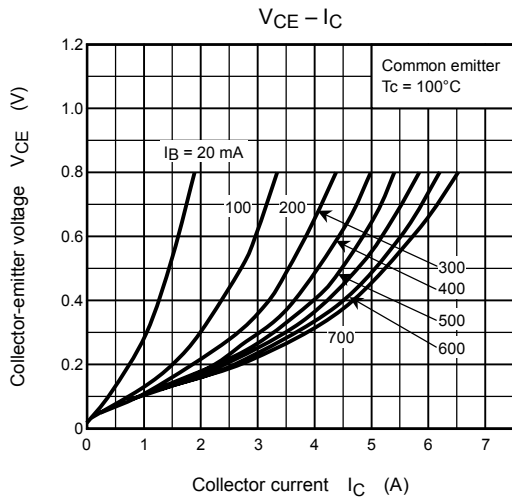
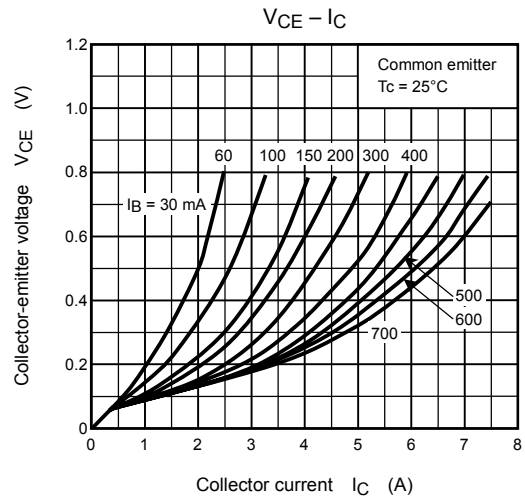
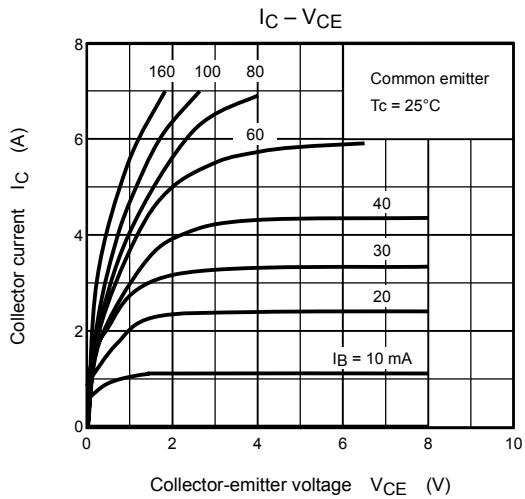
Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		ICBO	V _{CB} = 100 V, I _E = 0	—	—	5	μA
Emitter cut-off current		IEBO	V _{EB} = 5 V, I _C = 0	—	—	5	μA
Collector-emitter breakdown voltage		V _(BR) CEO	I _C = 50 mA, I _B = 0	80	—	—	V
DC current gain	h _{FE} (1)		V _{CE} = 1 V, I _C = 1 A	100	—	320	
	h _{FE} (2)		V _{CE} = 1 V, I _C = 4 A	30	—	—	
Collector-emitter saturation voltage		V _{CE} (sat)	I _C = 4 A, I _B = 0.4 A	—	0.25	0.5	V
Base-emitter saturation voltage		V _{BE} (sat)	I _C = 4 A, I _B = 0.4 A	—	0.9	1.4	V
Transition frequency		f _T	V _{CE} = 4 V, I _C = 1 A	—	10	—	MHz
Collector output capacitance		C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz	—	200	—	pF
Switching time	Turn-on time	t _{on}	 I _{B1} = -I _{B2} = 0.3 A, duty cycle ≤ 1%	—	0.4	—	μs
	Storage time	t _{stg}		—	2.5	—	
	Fall time	t _f		—	0.5	—	

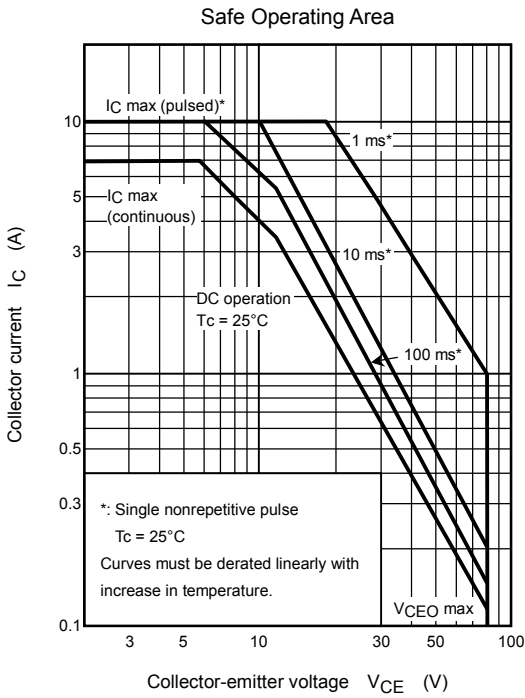
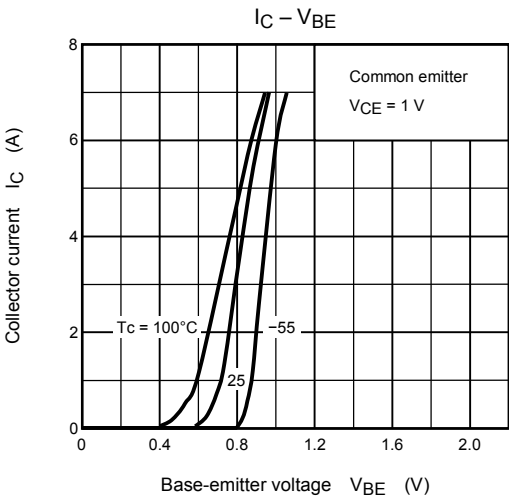
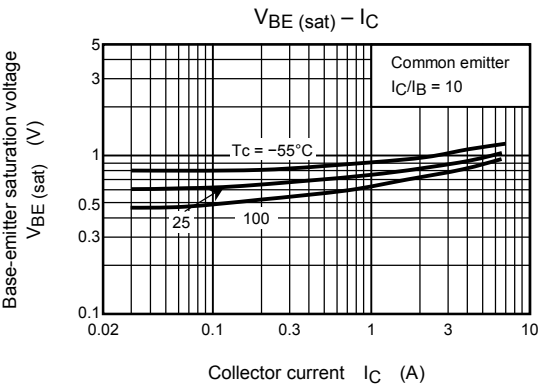
Marking



Explanation of Lot No.







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