Digital transistors (built-in resistor)
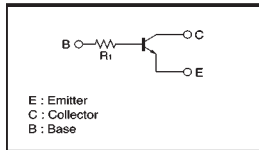
DTC323TU / DTC323TK / DTC323TS

●**Features**

In addition to the features of regular digital transistors,

1) Low $V_{CE(sat)}$ makes these transistors ideal for muting circuits.
(Typ. 0.04V at I_C/I_B＝50/2.5mA)

2) They can be used at high current. ($I_{CMax.}$ ＝600mA)

●**Circuit schematic**

E : Emitter
C : Collector
B : Base

●**Absolute maximum ratings** (Ta＝25℃)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	30	V
Collector-emitter voltage		V_{CEO}	15	V
Emitter-base voltage		V_{EBO}	5	V
Collector current		I_C	600	mA
Collector power dissipation	DTC323TU / DTC323TK	P_C	200	mW
	DTC323TS		300	
Junction temperature		Tj	150	℃
Storage temperature		Tstg	$-55\sim+150$	℃

●**Package, marking, and packaging specifications**

Part No.	DTC323TU	DTC323TK	DTC323TS
Package	UMT3	SMT3	SPT
Marking	H02	H02	—
Packaging code	T106	T146	TP
Basic ordering unit (pieces)	3000	3000	5000

●**Electrical characteristics** (Ta＝25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	30	—	—	V	I_C＝50μA
Collector-emitter breakdown voltage	BV_{CEO}	15	—	—	V	I_C＝1mA
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	I_E＝50μA
Collector cutoff current	I_{CBO}	—	—	0.5	μA	V_{CB}＝20V
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	V_{EB}＝4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	40	80	mV	I_C/I_B＝50mA/2.5mA
DC current transfer ratio	h_{FE}	100	250	600	—	I_C＝50mA , V_{CE}＝5V
Input resistance	R_1	1.64	2.2	2.86	kΩ	—
Transition frequency	f_T	—	200	—	MHz	V_{CE}＝10V , I_E＝$-$50mA , f＝100MHz ＊
Output on resistance	Ron	—	0.65	—	Ω	V_I＝7V , R_L＝1kΩ , f＝1kHz

＊ Transition frequency of the device.

(96-348-C323T)

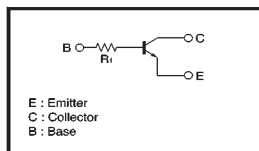# Digital transistors (built-in resistor)

DTC343TK / DTC343TS

●**Features**

In addition to the features of regular digital transistors,

1) Low $V_{CE(sat)}$ makes these transistors ideal for muting circuits.
(Typ. 0.04V at I_C/I_B＝50/2.5mA)

2) They can be used at high current. ($I_{CMax.}$ ＝600mA)

●**Circuit schematic**

E : Emitter
C : Collector
B : Base

●**Absolute maximum ratings** (Ta＝25℃)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	30	V
Collector-emitter voltage		V_{CEO}	15	V
Emitter-base voltage		V_{EBO}	5	V
Collector current		I_C	600	mA
Collector power dissipation	DTC343TK	P_C	200	mW
	DTC343TS		300	
Junction temperature		Tj	150	℃
Storage temperature		Tstg	$-55\sim+150$	℃

●**Package, marking, and packaging specifications**

Part No.	DTC343TK	DTC343TS
Package	SMT3	SPT
Marking	H03	—
Packaging code	T146	TP
Basic ordering unit (pieces)	3000	5000

●**Electrical characteristics** (Ta＝25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	30	—	—	V	I_C＝50μA
Collector-emitter breakdown voltage	BV_{CEO}	15	—	—	V	I_C＝1mA
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	I_E＝50μA
Collector cutoff current	I_{CBO}	—	—	0.5	μA	V_{CB}＝20V
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	V_{EB}＝4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	40	80	mV	I_C＝50mA , I_B＝2.5mA
DC current transfer ratio	h_{FE}	100	250	600	—	I_C＝50mA , V_{CE}＝5V
Input resistance	R_1	3.29	4.7	6.11	kΩ	—
Transition frequency	f_T	—	200	—	MHz	V_{CE}＝10V , I_E＝$-$50mA , f＝100MHz ＊
Output on resistance	Ron	—	0.95	—	Ω	V_I＝7V , R＝1kΩ , f＝1kHz

＊ Transition frequency of the device.

(94S-751-C343T)

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