



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Digital transistors (built-in resistor)

DTC363TK / DTC363TS

●Features

In addition to the features of regular digital transistors,

- 1) Low $V_{CE(sat)}$ makes these transistors optimal for muting circuits.

$$V_{CE(sat)} = 40\text{mV (Typ.)}$$

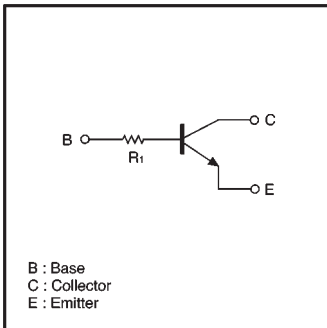
$$(I_C/I_B = 50\text{mA}/2.5\text{mA})$$

- 2) They can be used at high current ($I_C = 600\text{mA}$).

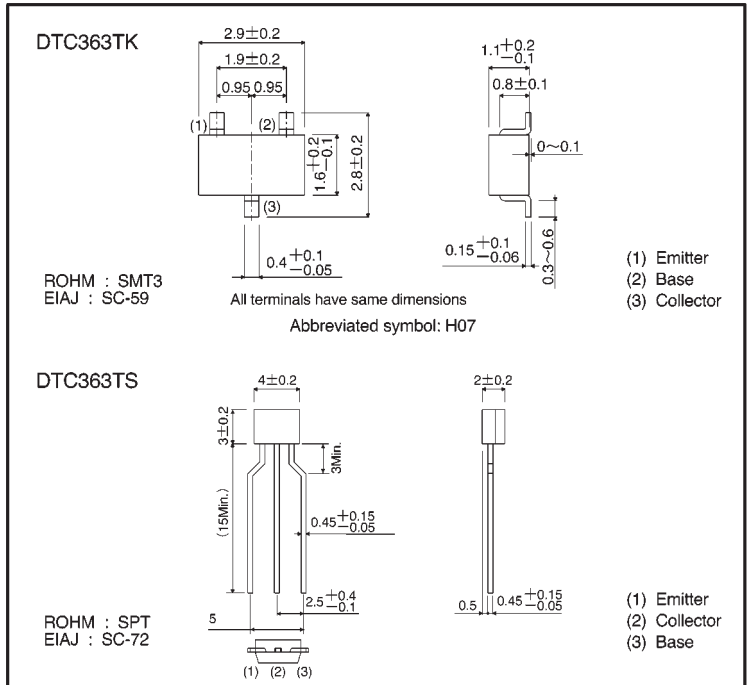
●Structure

NPN digital transistor
(Built-in resistor type)

●Equivalent circuit



●External dimensions (Units: mm)



● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits(DTC363T□)		Unit
		K	S	
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	P _c	200	300	mW
Junction temperature	T _j	150		°C
Storage temperature	T _{stg}	-55~+150		°C

● Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CBO}	30	—	—	V	I _c =50 μA
Collector-emitter breakdown voltage	BV _{CEO}	15	—	—	V	I _c =1mA
Emitter-base breakdown voltage	BV _{EBO}	5	—	—	V	I _E =50 μA
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	—	V _{CE} =5V, I _c =50mA
Input resistance	R _i	4.76	6.8	8.84	kΩ	—
Transition frequency	f _r	—	200	—	MHz	V _{CE} =10V, I _E =-50mA, f=100MHz *
Output "ON" resistance	R _{on}	—	1.25	—	Ω	V _I =7V, R _L =1kΩ, f=1kHz

* Transition frequency of the device

● Packaging specifications

Part No.	Package	SMT3	SPT
	Packaging type	Taping	Taping
	Code	T146	TP
	Basic ordering unit (pieces)	3000	5000
DTC363TK		○	—
DTC363TS		—	○

● R_{on} measurement circuit

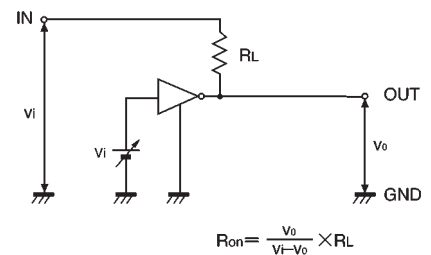


Fig.1 Input "on" resistance (R_{on}) measurement circuit

● Electrical characteristic curves

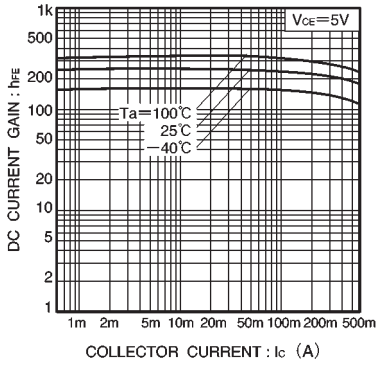


Fig.2 DC current gain vs. collector current

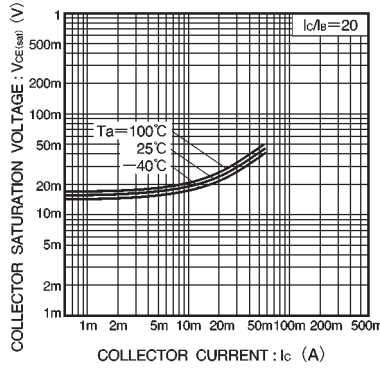


Fig.3 Collector-emitter saturation voltage vs. collector current

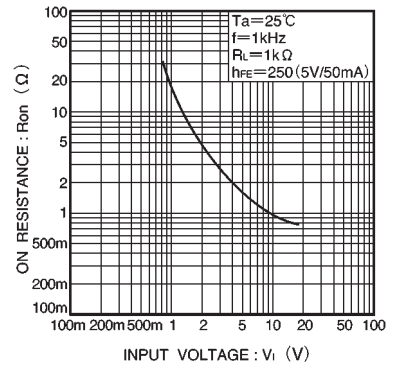


Fig.4 "ON" resistance vs. input voltage