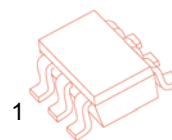


General purpose transistors (dual transistors)

FEATURES

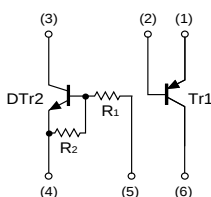
- 2SA2018 and DTC144E are housed independently in a package.
- Mounting possible with SOT-363 automatic mounting machines.
- Transistor elements are independent, eliminating interference.
- Mounting cost and area be cut in half.

SOT-363



Marking: F5

Equivalent circuit



Tr1 Absolute maximum ratings (Ta=25°C)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-15	V
V_{CEO}	Collector-Emitter Voltage	-12	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current	-500	mA
P_C	Collector Power Dissipation	150	mW
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55-150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-15			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-12			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB} = -15V, I_E = 0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -6V, I_C = 0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE} = -2V, I_C = -10mA$	270		680	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -200mA, I_B = -10mA$			-0.25	V
Transition frequency	f_T	$V_{CE} = -2V, I_E = -10mA, f = 100MHz$		260		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$		6.5		pF

Tr2 Absolute maximum ratings(Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V_{CC}	50	V
Input voltage	V_{IN}	-10~+40	V
Output current	I_O	30	mA
	$I_{C(MAX)}$	100	
Power dissipation	P_d	150	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
Input voltage	$V_{I(off)}$			0.5	V	$V_{CC}=5V, I_O=100\mu A$
	$V_{I(on)}$	3.0				$V_O=0.3V, I_O=2mA$
Output voltage	$V_{O(on)}$		0.1	0.3	V	$I_O/I_I=10mA/0.5mA$
Input current	I_I			0.18	mA	$V_I=5V$
Output current	$I_{O(off)}$			0.5	μA	$V_{CC}=50V, V_I=0$
DC current gain	G_I	68				$V_O=5V, I_O=5mA$
Input resistance	R_I	32.9	47	61.1	K Ω	-
Resistance ratio	R_2/R_1	0.8	1	1.2		-
Transition frequency	f_T		250		MHz	$V_{CE}=10V, I_E=-5mA, f=100MHz$