

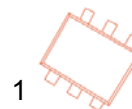
Power management (dual transistors)

FEATURES

- 2SA1774 and DTC114E are housed independently in a package
- Power management circuit
- Power switching circuit in a single package
- Mounting cost and area can be cut in half

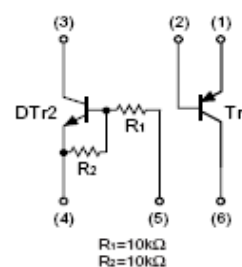
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SOT-563



TR1 MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{CB0}	Collector-Base Voltage	-60	V
V _{CEO}	Collector-Emitter Voltage	-50	V
V _{EBO}	Emitter-Base Voltage	-6	V
I _C	Collector Current -Continuous	-150	mA
P _C	Collector Power Dissipation	150	mW
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C



TR1 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 =-50μA, I _E =0	-60			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-1mA, I _B =0	-50			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-50μA, I _C =0	-6			V
Collector cut-off current	I _{CBO}	V _{CB} =-60V, 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} =-6V, I _C =-1mA	180		390	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =-50mA, I _B =-5mA			-0.5	V
Transition frequency	f _T	V _{CE} =-12V, I _C =-2mA, f=100MHz		140		MHz
Collector output capacitance	C _{ob}	V _{CB} =-12V, I _E =0, f=1MHz			5	pF

DTr2 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	50	mA
	$I_{C(MAX)}$	100	
Power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55~150	°C

DTr2 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				$V_O=0.3V, I_O=10mA$
Output voltage	$V_{O(on)}$			0.3	V	$I_O/I_I=10mA/0.5mA$
Input current	I_I			0.88	mA	$V_I=5V$
Output current	$I_{O(off)}$			0.5	μA	$V_{CC}=50V, V_I=0$
DC current gain	G_I	30				$V_O=5V, I_O=5mA$
Input resistance	R_1	7	10	13	K Ω	
Resistance ratio	R_2/R_1	0.8	1	1.2		
Transition frequency	f_T		250		MHz	$V_O=10V, I_O=-5mA, f=100MHz$