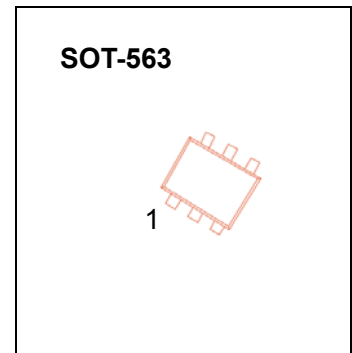


SOT-563 Plastic-Encapsulate Transistors

EMF24 Power management (dual transistors)

FEATURES

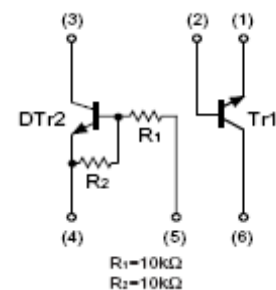
- 2SC4617 and DTC114E are housed independently in a package
- Power management circuit
- Power switching circuit in a single package
- Mounting cost and area can be cut in half



MARKING: F24

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	7	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	7			V
Collector cut-off current	I _{CBO}	V _{CB} =60V, I _E =0			0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =7V, 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			0.4	V
Transition frequency	f _T	V _{CE} =12V, I _C =2mA, f=100MHz		180		MHz
Collector output capacitance	C _{ob}	V _{CB} =12V, I _E =0, f=1MHz			3.5	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 =100μA
	V _{I(on)}	3				V _O =0.3V, I _O =10 mA
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	KΩ	
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