THE DATASHEET OF

FMW1T148

Emitter common (dual transistors)

UMW1N / FMW1

●Features

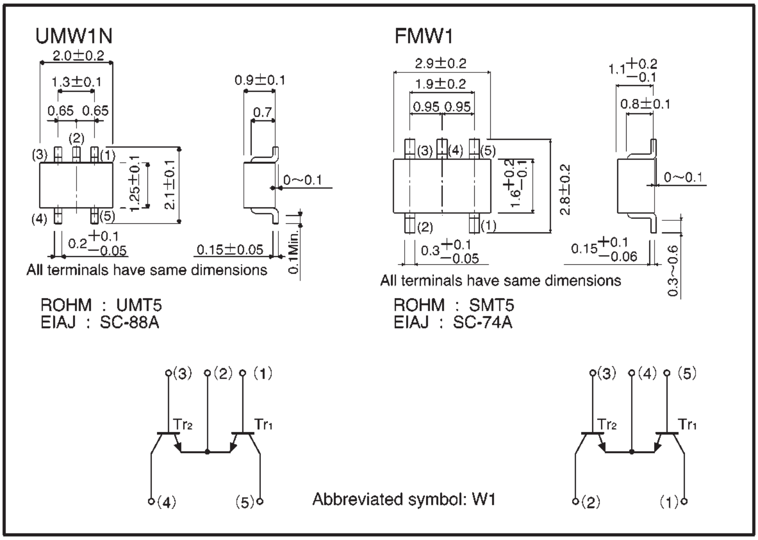
1) Two 2SC2412K chips in a UMT or SMT package.
2) Mounting cost and area can be cut in half.

●Structure

Epitaxial planar type
NPN silicon transistor

The following characteristics apply to both Tr_1 and Tr_2.

●External dimensions (Units: mm)



●Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	60	V
Collector-emitter voltage		V_{CEO}	50	V
Emitter-base voltage		V_{EBO}	7	V
Collector current		I_C	150	mA
Power dissipation	UMW1N	P_C	150 (TOTAL)	mW *1
	FMW1		300 (TOTAL)	*2
Junction temperature		Tj	150	℃
Storage temperature		Tstg	−55~+150	℃

*1 120mW per element must not be exceeded.
*2 200mW per element must not be exceeded.

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	60	—	—	V	I_C=50 μA
Collector-emitter breakdown voltage	BV_{CEO}	50	—	—	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	7	—	—	V	I_E=50 μA
Collector cutoff current	I_{CBO}	—	—	0.1	μA	V_{CB}=60V
Emitter cutoff current	I_{EBO}	—	—	0.1	μA	V_{EB}=7V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	0.4	V	I_C/I_B=50mA/5mA
DC current transfer ratio	h_{FE}	120	—	560	—	V_{CE}=6V, I_C=1mA
Transition frequency	f_T	—	180	—	MHz	V_{CE}=12V, I_E=2mA, f=100MHz
Output capacitance	Cob	—	2	3.5	pF	V_{CB}=12V, I_E=0A, f=1MHz

●Packaging specifications

Part No.	Packaging type	Taping	
	Code	TR	T148
	Basic ordering unit (pieces)	3000	3000
UMW1N		○	—
FMW1		—	○

●Electrical characteristic curves

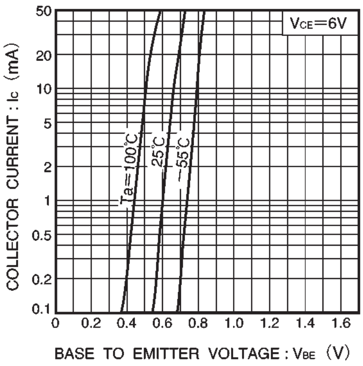


Fig.1 Grounded emitter propagation characteristics

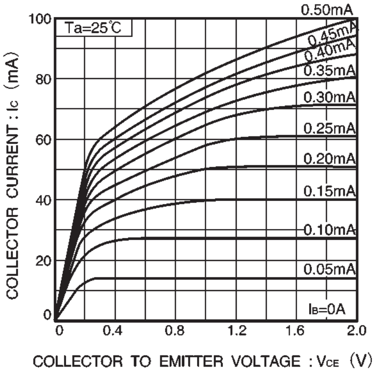


Fig.2 Grounded emitter output characteristics (I)

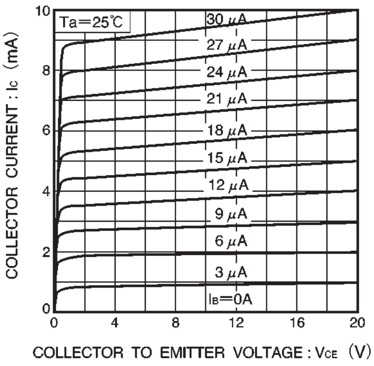


Fig.3 Grounded emitter output characteristics (II)

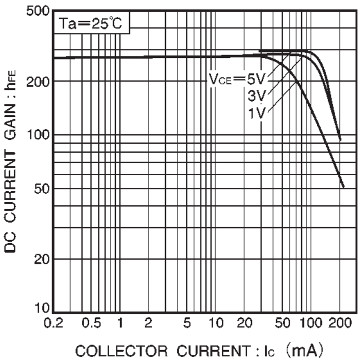


Fig.4 DC current gain vs. collector current (Ⅰ)

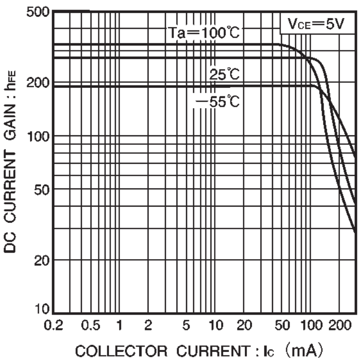


Fig.5 DC current gain vs. collector current (Ⅱ)

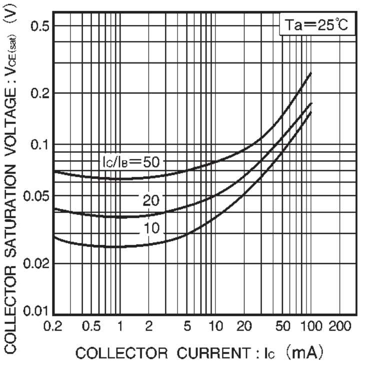


Fig.6 Collector-emitter saturation voltage vs. collector current

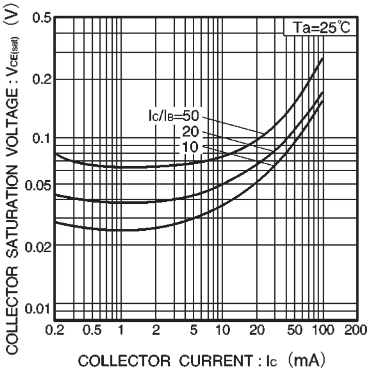


Fig.7 Collector-emitter saturation voltage vs. collector current (Ⅰ)

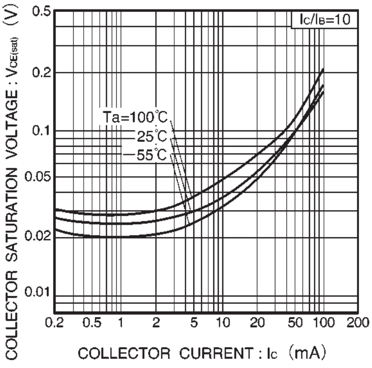


Fig.8 Collector-emitter saturation voltage vs. collector current (Ⅱ)

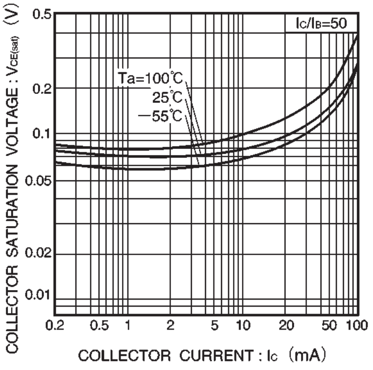


Fig.9 Collector-emitter saturation voltage vs. collector current (Ⅲ)

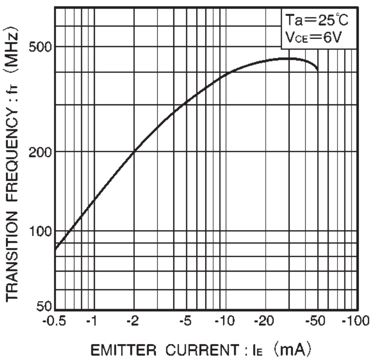


Fig.10 Gain bandwidth product vs. emitter current

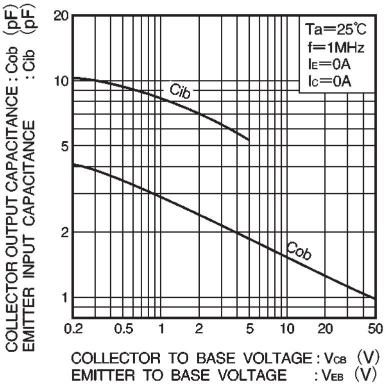


Fig.11 Collector output capacitance vs. collector-base voltage Emitter input capacitance vs. emitter-base voltage

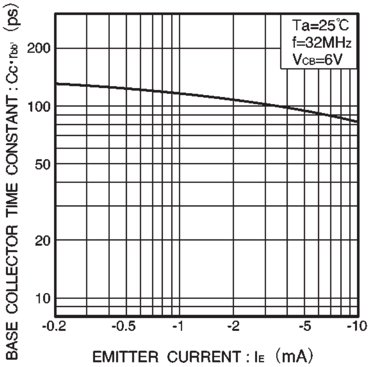


Fig.12 Base-collector time constant vs. emitter current