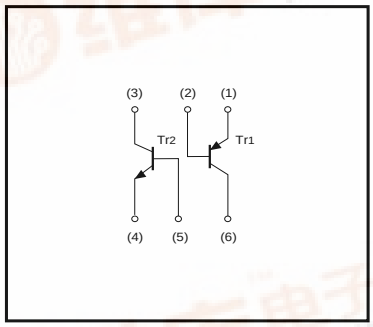
Power management (dual transistors)

EMZ8 / UMZ8N

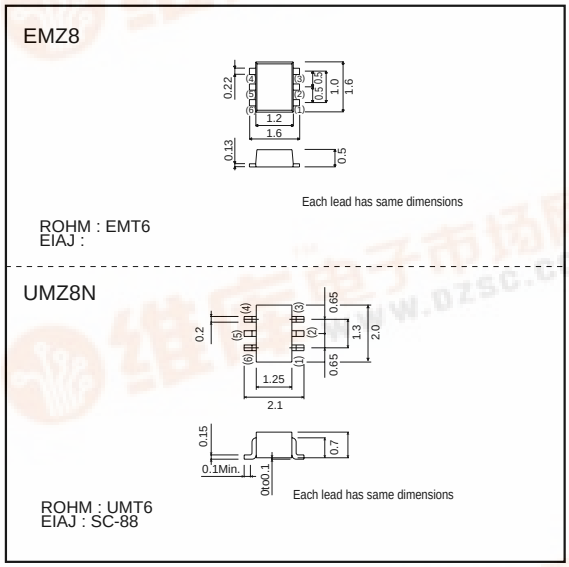
●Feature

1) Both a 2SA2018 chip and 2SC2412K chip in a EMT or UMT package.

●Equivalent circuits



●External dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits		Unit
		Tr1	Tr2	
Collector-base voltage	V_{CBO}	−15	60	V
Collector-emitter voltage	V_{CEO}	−12	50	V
Emitter-base voltage	V_{EBO}	−6	7	V
Collector current	I_C	−500	150	mA
	I_{CP}	−1	−	A
Collector power dissipation	P_C	150 (TOTAL)		mW ✻
Junction temperature	Tj	150		°C
Storage temperature	Tstg	−55 to +150		°C

✻ 120mW per element must not be exceeded.

●Package, marking, and packaging specifications

Part No.	EMZ8	UMZ8N
Package	EMT6	UMT6
Marking	Z8	Z8
Code	T2R	TR
Basic ordering unit (pieces)	8000	3000

●Electrical characteristics (Ta=25°C)

Tr1

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−15	–	–	V	IC=−10μA
Collector-emitter breakdown voltage	BV_{CEO}	−12	–	–	V	IC=−1mA
Emitter-base breakdown voltage	BV_{EBO}	−6	–	–	V	IE=−10μA
Collector cutoff current	I_{CBO}	–	–	−0.1	μA	VCB=−15V
Emitter cutoff current	I_{EBO}	–	–	−0.1	μA	VEB=−6V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	−0.1	−0.25	V	IC/IB=−200mA/−10mA
DC current transfer ratio	h_{FE}	270	–	680	–	VCE=−2V , IC = −10mA
Transition frequency	f_T	–	260	–	MHz	VCE=−2V , IE=10mA , f = 100MHz
Output capacitance	Cob	–	6.5	–	pF	VCB=−10V , IE=0A , f=1MHz

Tr2

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	60	–	–	V	I_C=50μA
Collector-emitter breakdown voltage	BV_{CEO}	50	–	–	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	7	–	–	V	I_E=50μA
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

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