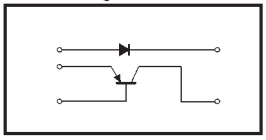
Low-frequency transistor
UML1N

●**Features**

1） The 2SA1037AK and a diode are housed independently in a UMT package.

●**Circuit diagram**



●**Package, marking, and packaging specifications**

Part No.	UML1N
Package	UMT5
Marking	L1
Code	TR
Basic ordering unit (pieces)	3000

●**Absolute maximum ratings (Ta = 25℃)**

Tr

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	−60	V
Collector-emitter voltage	V_{CEO}	−50	V
Emitter-base voltage	V_{EBO}	−6	V
Collector current	I_C	−0.15	A
Collector power dissipatio	Pc	0.15	W
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55～+150	℃

Di

Parameter	Symbol	Limits	Unit
DC reverse voltage	V_R	80	V
Peak reverse voltage	V_{RM}	80	V
Mean rectifying current	I_O	0.1	A
Peak forward voltage	I_{FM}	0.3	A
Surge current	Isurge	4	A
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55～+150	℃
Specified I/O frequencies	f	100	MHz

●**Electrical characteristics (Ta = 25℃)**

Tr

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CEO}	−50	—	—	V	I_C=−1mA
Collector-base breakdown voltage	BV_{CBO}	−60	—	—	V	I_C=−50 μA
Emitter-base breakdown voltage	BV_{EBO}	−6	—	—	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}=−5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	−0.5	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	—	140	—	MHz	V_{CE}=−12V, I_E=−2mA, f=100MHz
Output capacitance	Cob	—	4	5	pF	V_{CB}=−12V, I_E=0A, f=1MHz

Di

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	V_F	—	—	1.2	V	I_F=100mA
Reverse current	I_R	—	—	0.1	μA	V_R=70V
Capacitance between terminals	C_T	—	—	3.5	pF	V_R=6V, f=1MHz
Reverse recovery time	trr	—	—	4	ns	V_R=6V, I_F=5mA, RL=50Ω

(SPEC-UML1N)