

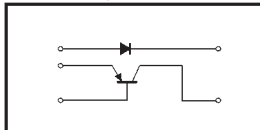
Low-frequency transistor

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

●Electrical characteristics (Ta = 25°C)

Tr						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV _{CE0}	−50	—	—	V	I _C = −1mA
Collector-base breakdown voltage	BV _{CB0}	−60	—	—	V	I _C = −50 μA
Emitter-base breakdown voltage	BV _{EB0}	−6	—	—	V	I _E = −50 μA
Collector cutoff current	I _{CB0}	—	—	−0.1	μA	V _{CB} = −60V
Emitter cutoff current	I _{EB0}	—	—	−0.1	μA	V _{EB} = −5V
Collector-emitter saturation voltage	V _{CE(sat)}	—	—	−0.5	V	I _C /I _E = −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	C _{ob}	—	4	5	pF	V _{CE} = −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	t _{rr}	—	—	4	ns	V _R = 6V, I _F = 5mA, R _L = 50 Ω

●Absolute maximum ratings (Ta = 25°C)

Tr			
Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	−60	V
Collector-emitter voltage	V _{CE0}	−50	V
Emitter-base voltage	V _{EB0}	−6	V
Collector current	I _C	−0.15	A
Collector power dissipation	P _C	0.15	W
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	−55~+150	°C

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	I _{surge}	4	A
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	−55~+150	°C
Specified I/O frequencies	f	100	MHz