

SOT-353 Plastic-Encapsulate Transistors

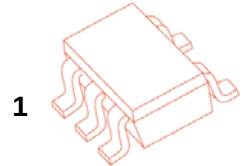
UMY1N General purpose transistors (dual transistors)

FEATURES

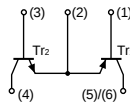
- Includes a 2SA1037AK and a 2SC2412K transistor in a package
- PNP and NPN transistors have common emitters
- Mounting cost and area be cut in half

MARKING: Y1

SOT-353



Equivalent circuit:



Tr1 Absolute maximum ratings ($T_a=25^\circ\text{C}$)

Symbol	Parameter	Limits	Units
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current -Continuous	-150	mA
P_C	Collector Dissipation	150	mW
T_j	Junction temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-50\mu\text{A}, I_E=0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, I_B=0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-50\mu\text{A}, I_C=0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB}=-60\text{V}, I_E=0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-6\text{V}, I_C=0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE}=-6\text{V}, I_C=-1\text{mA}$	120		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-50\text{mA}, I_B=-5\text{mA}$			-0.5	V
Transition frequency	f_T	$V_{CE}=-12\text{V}, I_C=-2\text{mA}, f=100\text{MHz}$		140		MHz
Output capacitance	C_{ob}	$V_{CB}=-12\text{V}, I_E=0, f=1\text{MHz}$			5	pF

Tr2 Absolute maximum ratings ($T_a=25^{\circ}\text{C}$)

Symbol	Parameter	Limits	Units
V_{CBO}	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 Dissipation	150	mW
T_J	Junction temperature	150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu\text{A}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu\text{A}, I_C=0$	7			V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=7\text{V}, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=6\text{V}, I_C=1\text{mA}$	120		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$			0.4	V
Transition frequency	f_T	$V_{CE}=12\text{V}, I_C=2\text{mA}, f=100\text{MHz}$		180		MHz
Output capacitance	C_{ob}	$V_{CB}=12\text{V}, I_E=0, f=1\text{MHz}$			3.5	pF