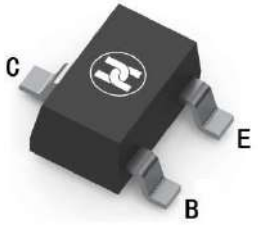
NPN SMALL SINGAL DIGITAL TRANSISTOR

FEATURES

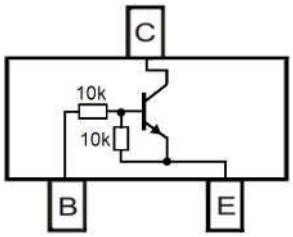
- Built-in bias resistors
- Simplified circuit design
- Reduction of component count
- Complement to PDTA114EU



SOT-323

MECHANICAL DATA

- Case: SOT-323 (SC-70)
- Case material: Molded Plastic. UL flammability
- Classification rating: 94V-0
- Terminals: Tin plated,solderable per MIL-STD-202, Method 208
- Weight: 0.008 grams (approximate)



MAXIMUM RATINGS (T_a = 25°C unless otherwise specified)

Parameter		Symbol	Value	Unit	Conditions
Collector-base voltage		V_{CBO}	50	V	Open emitter
Collector-emitter voltage		V_{CEO}	50	V	Open base
Emitter-base voltage		V_{EBO}	10	V	Open collector
Input voltage	Positive	V_I	+40	V	
	Negative		-10	V	
Output current (DC)		I_O	100	mA	
Peak collector current		I_{CM}	100	mA	
Total power dissipation		P_{tot}	200	mW	Standard mounting
Storage temperature		T_{stg}	-65 ~ +150	°C	
Junction temperature		T_j	150	°C	
Operating ambient temperature		T_a	-65 ~ +150	°C	
Thermal resistance from junction to ambient		$R_{th\ j\text{-}a}$	625	K/W	Standard mounting

ELECTRICAL CHARACTERISTICS (T_a = 25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Collector-base cut-off current	I_{CBO}			100	nA	V_{CB}=50V;I_E=0
Collector-emitter cut-off current	I_{CEO}			1	μA	V_{CE}=30V;I_B=0
				50	μA	V_{CE}=30V;I_B=0;Tj=150°C
Emitter-base cut-off current	I_{EBO}			400	μA	V_{EB}=5V;I_C=0
DC current gain	h_{FE}	30				V_{CE}=5V;I_C=5mA
Collector-emitter saturation voltage	V_{CEsat}			150	mV	I_C=10mA;I_B=0.5mA
Input-off voltage	$V_{i(off)}$		1.1	0.8	V	I_C=100mA;V_{CE}=5V
Input-on voltage	$V_{i(on)}$	2.5	1.8		V	I_C=10mA;V_{CE}=0.3V
Input resistor	R1	7	10	13	kΩ	
Resistor ratio	R2/R1	0.8	1	1.2		
Collector capacitance	C_c			2.5	pF	I_E=i_e=0;V_{CB}=10V;f=1MHz