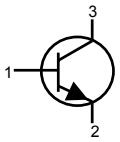
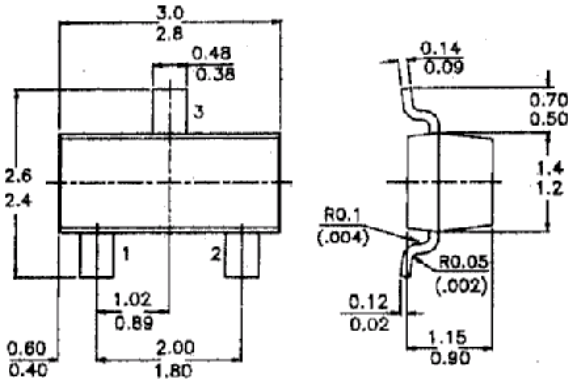
RECTRON
RECTIFIER SPECIALISTS

CMBTA13

NPN Small-Signal Darlington Transistors

Pin configuration:
1. BASE
2. EMITTER
3. COLLECTOR





Unit: inch (mm)

Absolute Maximum Ratings

	Symbol	Value	UNIT
Collector-emmitter voltage (open base) V_{BE} = 0	V_{CES}	max 30	V
Collector current (d.c.)	I_C	max 300	mA
Total power dissipation up to T_{amb} = 25°C	P_{tot}	max 250	mW
Junction Temperature	Tj	max 150	°C
D.C. current gain I_C = 10mA; V_{CE} = 5V	h_{FE}	min 5000	
Transition frequency at f = 100MH_Z I_C = 10mA; V_{CE} = 5V	f_T	min 125	MH_Z

Ratings (at T_A = 25°C unless otherwise specified)
Limmiting values

	Symbol	Value	UNIT
Collector-base voltage (open emitter) V_{BE} = 0	V_{CBO}	max 30	V
Collector-emitter voltage (open base) V_{BE} = 0	V_{CES}	max 30	V
Collector-base voltage (open collector)	V_{EBO}	max 10	V
Collector current	I_C	max 300	mA
Total power dissipation up to T_{amb} = 25°C	P_{tot}	max 250	mW
Storge Temperature	Tstg	-65 to +150	°C
Junction Temperature	Tj	max 150	°C
Thermal Resistance from junction to Ambient	R_{thA}	500	K/mW

Characteristics (at Ta=25 °C unless otherwise specified)

	Symbol	Value	UNIT
Collector-emitter breakdown voltage I_C = 100 uA	$V_{(BR)CES}$	min 30	V
Emitter-base cut-off current V_{BE} = 10 V	I_{EBO}	max 0.1	uA
Emitter-base cut-off current V_{CB} = 10 V	I_{CBO}	max 0.1	uA
D.C. current gain I_C = 10mA; V_{CE} = 5V I_C = 100mA; V_{CE} = 5V	h_{FE}	min 5000 min 10000	
Collector-emitter saturation voltage I_C = 100mA; I_B = 0.1 mA	V_{CEsat}	max 1.5	V
Base-emitter On voltage I_C = 100mA; V_{CE} = 5V	$V_{BE(on)}$	max 2	V
Transition frequency at f = 100 MH_Z I_C = 10mA; V_{CE} = 5V	f_T	min 125	MH_Z