Bias Resistor Transistors

PNP Silicon Surface Mount Transistors with Monolithic Bias Resistor Network

FEATURES

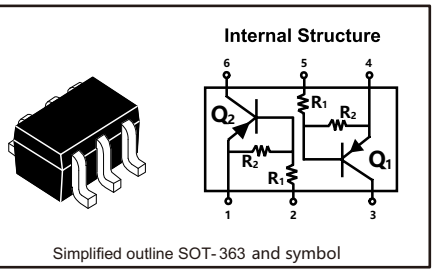
- Reduces board space
- Simplifies Circuit Design
- Reduces Board Space and Component Count

Mechanical Data

- Case: SOT-363
- R_1 = 4.7KΩ (Typ) , R_2 = open

PINNING

PIN	DESCRIPTION
2,5	BASE
1,4	EMITTER
3,6	COLLECTOR



Simplified outline SOT-363 and symbol

MAXIMUM RATINGS (Ta =25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Output current	I_C	-100	mA
Power dissipation	P_D	250	mW
Thermal Resistance – Junction-to-Ambient	$R_{\theta JA}$	500	°C/W
Junction temperature	T_J	150	°C
Range of storage temperature	T_{stg}	-55~ +150	°C

ELECTRICAL CHARACTERISTICS(TA = 25°C unless otherwise noted.)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = -10uA , I_E = 0	-50			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = -2mA , I_B = 0	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E = -2mA , I_C = 0	-6			V
Collector-Base Cut off Current	I_{CBO}	V_{CB} = -50V , I_E = 0			-100	nA
Collector-Emitter Cut off Current	I_{CEO}	V_{CE} = -50V , I_B =0			-500	nA
Emitter-Base Cut off Current	I_{EBO}	V_{EB} = -6V , I_C =0			-1.9	mA
DC Current Gain	h_{FE}	V_{CE} = -10V , I_C =-5mA	160			
Output Voltage (on)	V_{OL}	V_{CE} = -5.0V , V_{BE} = -2.5V , R_L = 1.0KΩ			-0.2	V
Output Voltage (off)	V_{OH}	V_{CE} = -5.0V , V_{BE} = -0.25V , R_L = 1.0KΩ	-4.9			V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = -10mA , I_B = -1mA			-0.25	V
Input Voltage (off)	$V_{I(off)}$	V_{CE} = -5V , I_C = -100μA	-0.5			V
Input Voltage (on)	$V_{I(on)}$	V_{CE} = -0.2V , I_C = -5mA			-1.3	V
Input resistance	R_1		3.3	4.7	6.1	KΩ
Input resistance	R_2		-	-	-	KΩ
Resistance ratio	R_2 / R_1		-	-	-	

Typical Performance Characteristics

Fig 1. VCE(sat) versus IC

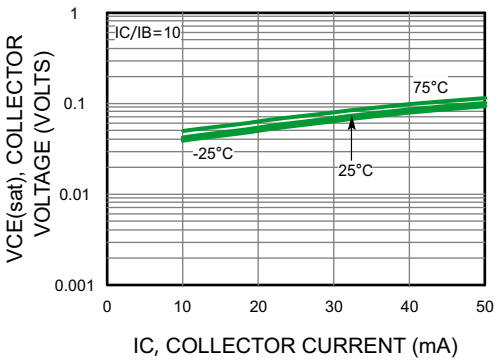


Fig 2. DC Current Gain

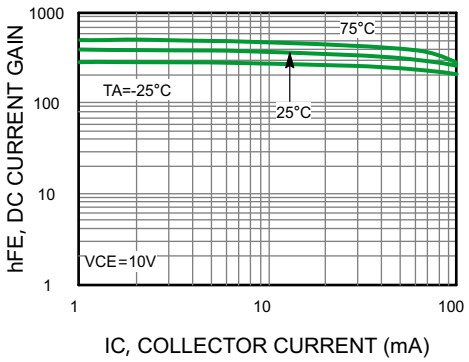


Fig 3. Output Capacitance

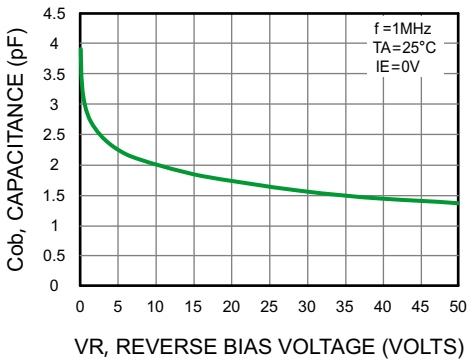


Fig 4. Output Current versus Input Voltage

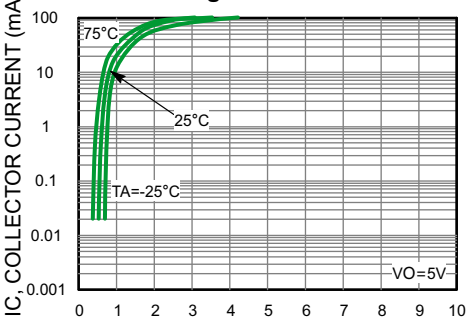
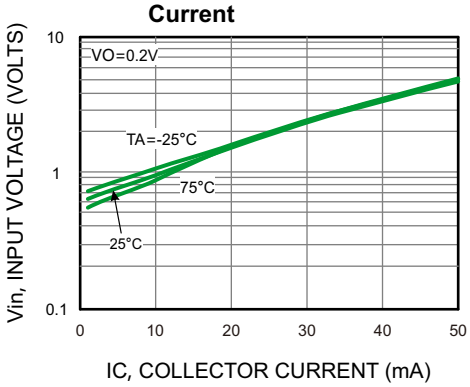
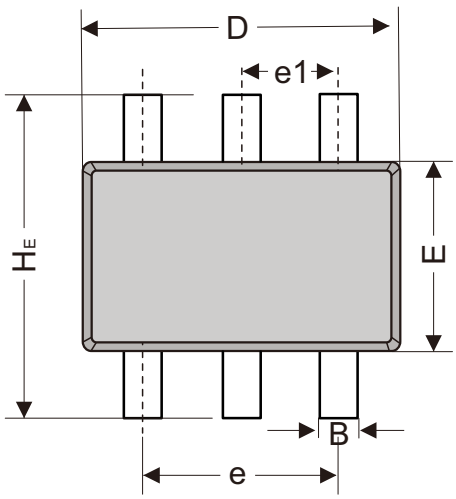
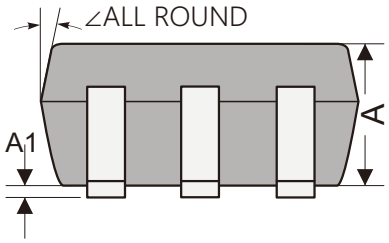


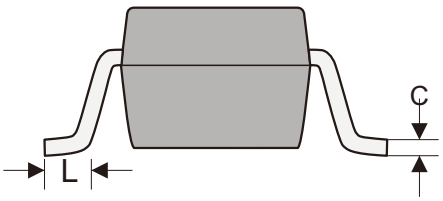
Fig 5. Input Voltage versus Output Current



SOT-363 Package Outline Dimensions



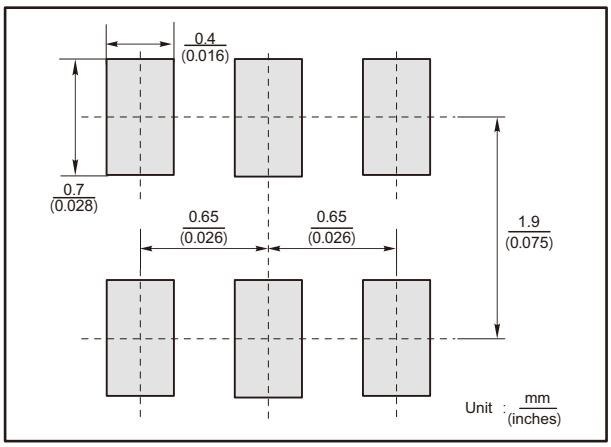




SOT-363 mechanical data

UNIT		A	A1	B	C	D	E	e	e1	L	HE
mm	max	1.00	0.10	0.30	0.25	2.20	1.35	1.40	0.65 (BSC)	0.320 REF	2.40
	min	0.80	0.00	0.20	0.10	1.80	1.15	1.20			2.00
mil	max	39.37	3.94	11.81	9.84	86.61	53.15	55.12	25.59 (BSC)	12.56 REF	93.75
	min	31.50	0.00	7.87	3.94	70.87	45.28	47.24			78.74

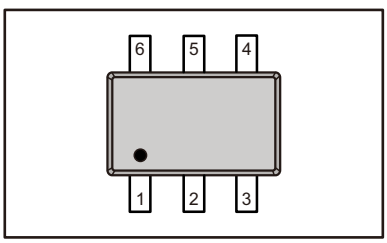
The recommended mounting pad size



Marking

Type number	Marking code
JDTA243TWH	T43

Pin Point



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