

LDTC123JET1G

S-LDTC123JET1G

Bias Resistor Transistor
NPN Silicon Surface Mount Transistor
with Monolithic Bias Resistor Network

1. FEATURES

- Simplifies circuit design
- Reduces board space and component count
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

2. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	R1(K)	R2(K)	Shipping
LDTC123JET1G	8M	2.2	47	3000/Tape&Reel

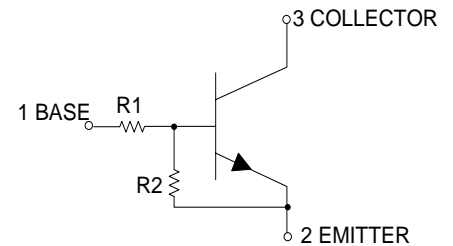
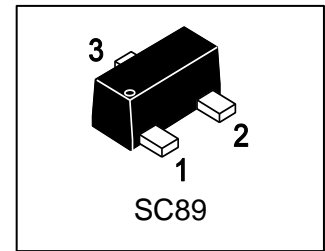
3. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	V _{CEO}	50	V
Collector–Base Voltage	V _{CB0}	50	V
Collector Current — Continuous	I _C	100	mA

4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR-5 Board (Note 1) @ TA = 25°C Derate above 25°C	PD	200 1.6	mW mW/°C
Thermal Resistance, Junction–to–Ambient(Note 1)	R _{θJA}	600	°C/W
Junction and Storage temperature	T _J , T _{stg}	-55~+150	°C

1. FR-5 @ Minimum Pad.



5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

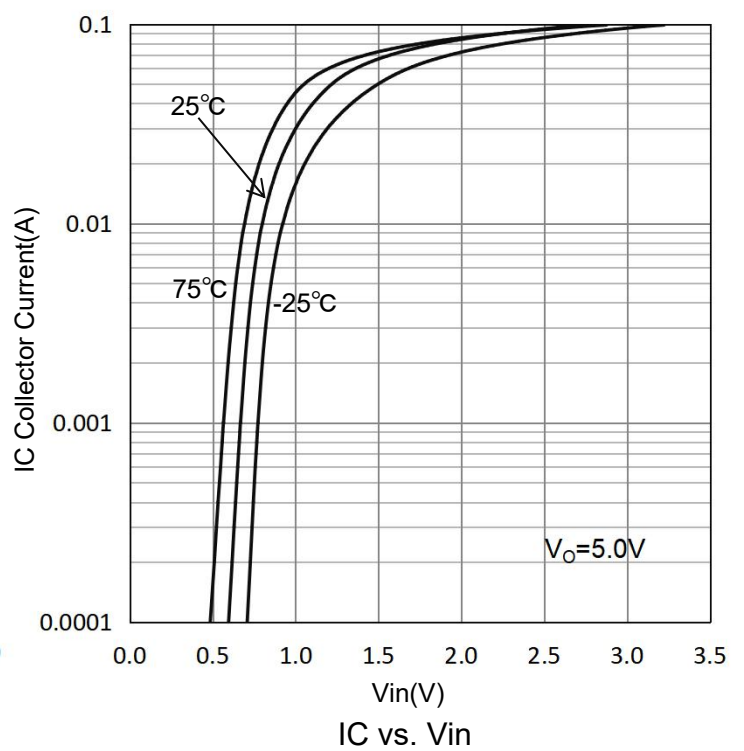
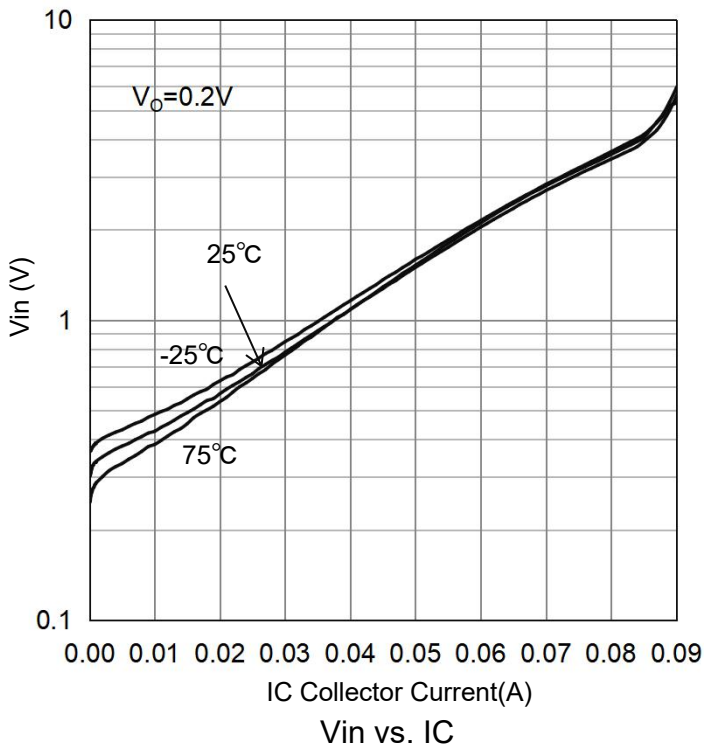
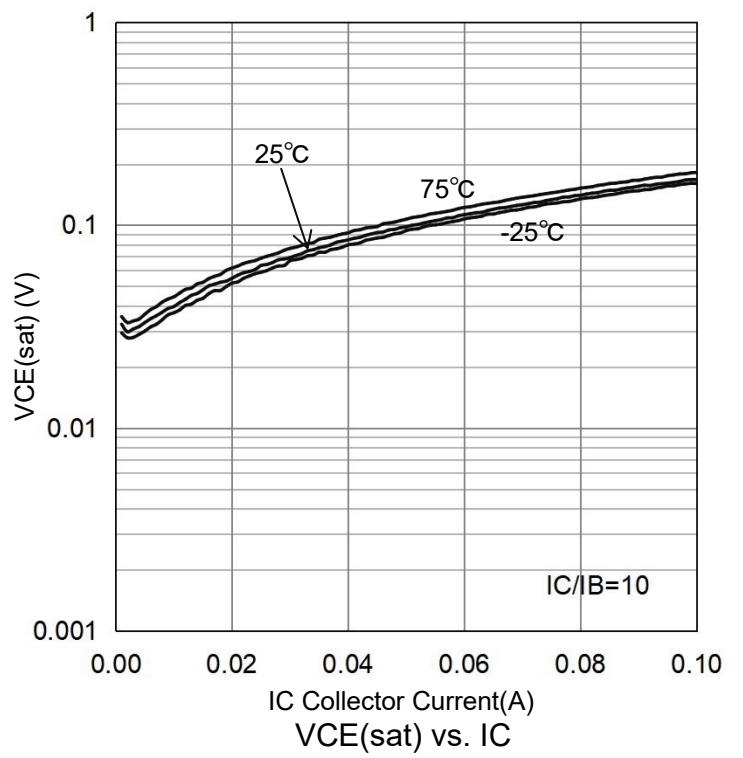
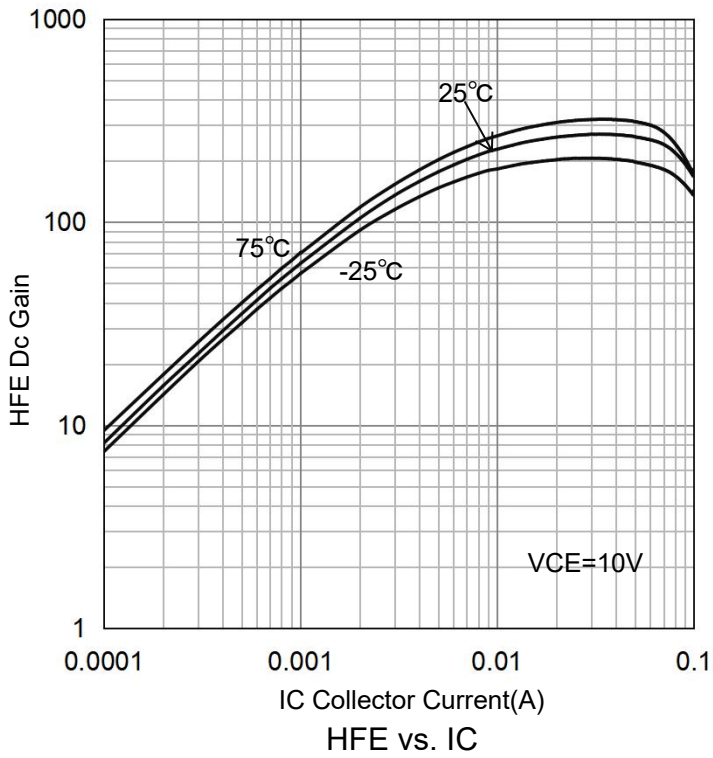
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage (IC = 2.0 mA, IB = 0)	VBR(CEO)	50	-	-	V
Collector–Base Breakdown Voltage (IC = 10 μA, IE = 0)	VBR(CBO)	50	-	-	V
Collector-Base Cutoff Current (VCB = 50 V, IE = 0)	ICBO	-	-	100	nA
Collector-Emitter Cutoff Current (VCE = 50 V, IB = 0)	ICEO	-	-	500	nA
Emitter-Base Cutoff Current (VEB = 6.0 V, IC = 0)	IEBO	-	-	0.2	mA

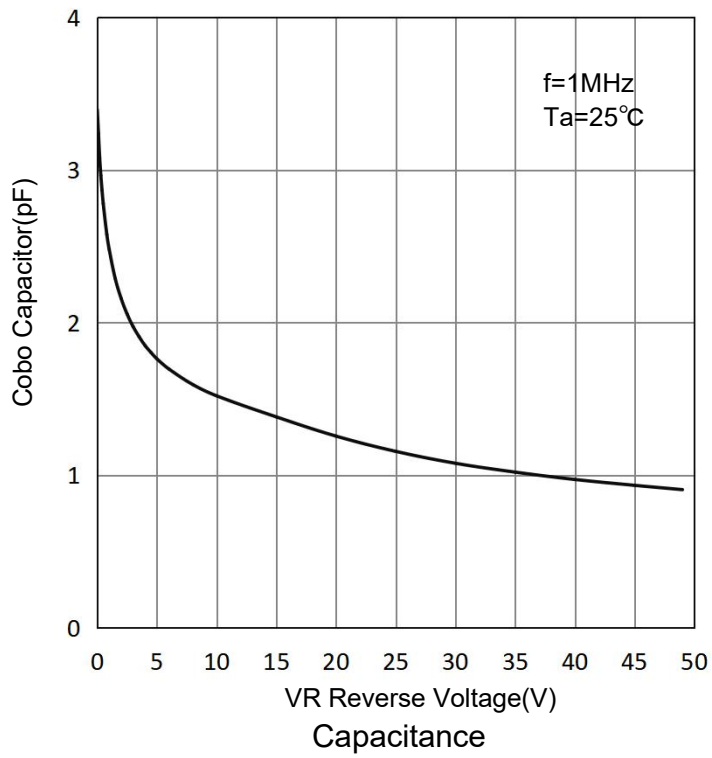
ON CHARACTERISTICS (Note 2.)

DC Current Gain (IC = 5.0 mA, VCE = 10 V)	HFE	80	140	-	
Collector–Emitter Saturation Voltage (IC = 10 mA, IB = 0.3 mA)	VCE(sat)	-	-	0.25	V
On-State Input Voltage (VCE=0.3V, IC=5mA)	VI(on)	-	-	1.1	V
Off-State Input Voltage (VCE=5V, IC=0.1mA)	VI(off)	0.5	-	-	V
Output Voltage (on) (VCC = 5.0 V, VB = 2.5 V, RL = 1.0KΩ)	VOL	-	-	0.2	V
Output Voltage (on) (VCC = 5.0 V, VB = 0.5 V, RL = 1.0KΩ)	VOH	4.9	-	-	V
Input Resistor	R1	1.54	2.2	2.86	KΩ
Resistor Ratio	R1/R2	0.038	0.047	0.056	

2. Pulse Test: Pulse Width < 300 μs, Duty Cycle < 2.0%

6. ELECTRICAL CHARACTERISTICS CURVES

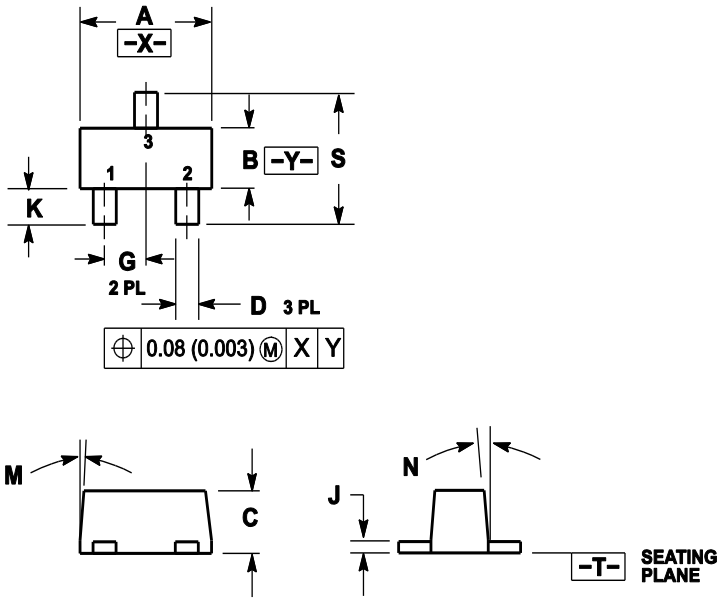


6. ELECTRICAL CHARACTERISTICS CURVES(Con.)

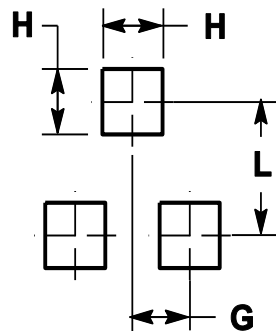
7.OUTLINE AND DIMENSIONS

Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.50	1.60	1.70	0.059	0.063	0.067
B	0.75	0.85	0.95	0.030	0.034	0.040
C	0.60	0.70	0.80	0.024	0.028	0.031
D	0.23	0.28	0.33	0.009	0.011	0.013
G	0.50BSC			0.020BSC		
H	0.53REF			0.021REF		
J	0.10	0.15	0.20	0.004	0.006	0.008
K	0.30	0.40	0.50	0.012	0.016	0.02
L	1.10REF			0.043REF		
M	---	---	10°	---	---	10°
N	---	---	10°	---	---	10°
S	1.50	1.60	1.70	0.059	0.063	0.067

8.SOLDERING FOOTPRINT


DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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