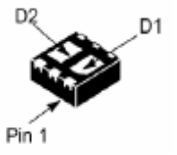
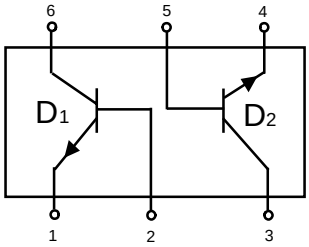
LBTN240DT2AG
S-LBTN240DT2AG

Dual General Purpose Transistors



DFN2020-6D



1. FEATURES

- Low collector-emitter saturation voltage
- High current capability
- Improved device reliability due to reduced heat generation
- 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. APPLICATIONS

- Supply line switching circuits
- Battery management applications
- DC/DC converter applications
- Strobe flash units
- Heavy duty battery powered equipment (motor and lamp drivers).

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LBTN240DT2AG	D24	4000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter	Symbol	Limits	Unit
Collector-Emitter Voltage	VCEO	40	V
Collector-Base voltage	VCBO	40	V
Emitter-Base Voltage	VEBO	5	V
Collector current-continuoun	IC	2	A
Junction temperature	TJ	-55~+150	℃
Storage temperature	TSTG	-55~+150	℃

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Power Dissipation	PD	1.4	W
Thermal Resistance, Junction–to–Ambient(Note 1)	RΘJA	140	ºC/W

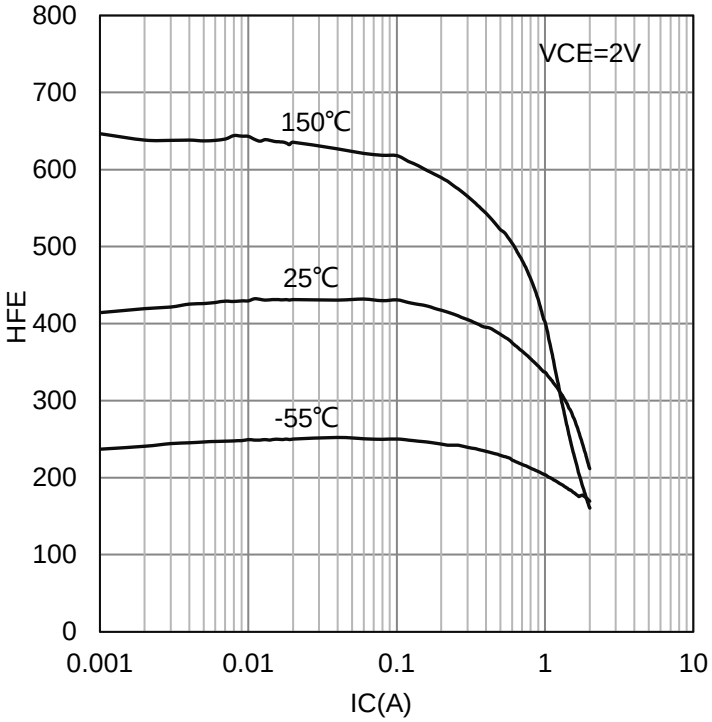
1. 1-in² 2oz Cu PCB board.

6. ELECTRICAL CHARACTERISTICS (Ta= 25ºC)

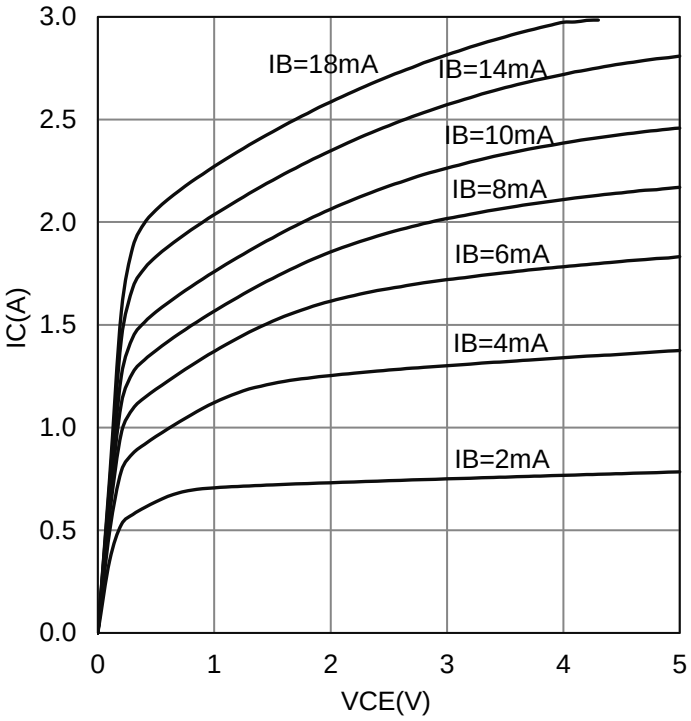
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage (IC= 10mA,IB= 0A)	VBR(CEO)	40	-	-	V
Collector–Base Breakdown Voltage (IC= 100μA,IE= 0A)	VBR(CBO)	40	-	-	V
Emitter–Base Breakdown Voltage (IE= 100μA,IC= 0A)	VBR(EBO)	5	-	-	V
Collector-Emitter cutoff Current (IB=0, VCE = 40V)	ICEO	-	-	1	μA
Collector-Base cut-off current (IE = 0, VCB = 30 V)	ICBO	-	-	100	nA
Emitter-Base cut-off current (IC = 0, VEB = 4 V)	IEBO	-	-	100	nA
DC current gain (IC = 100 mA, VCE = 2 V) (IC = 500 mA, VCE = 2 V) (IC = 1 A, VCE = 2 V) (IC = 1 A, VCE = 5 V) (IC = 2 A, VCE = 2 V)	hFE	 350 300 300 300 150	 - - - - -	 - - - - -	
Collector-Emitter saturation voltage (IC = 100 mA, IB = 1 mA) (IC = 500 mA, IB = 50 mA) (IC = 750 mA, IB = 15 mA) (IC = 1 A, IB = 50 mA)(Note 3) (IC = 2 A, IB = 200 mA)(Note 3)	VCE(sat)	 - - - - -	 - - - - -	 70 100 180 180 320	mV
Base-Emitter saturation voltage (IC = 2 A,IB = 50 mA)(Note 3)	VBE(sat)	-	-	1.1	V
Base-Emitter turn on voltage (IC = 100 mA,VCE = 2 V)	VBE(on)	-	-	0.75	V
Transition frequency (IC = 100 mA,VCE = 10 V, f = 100 MHz)	fT	100	-	-	MHz

3.Pulse test: tp ⩽ 300 μs, δ ⩽ 0.02.

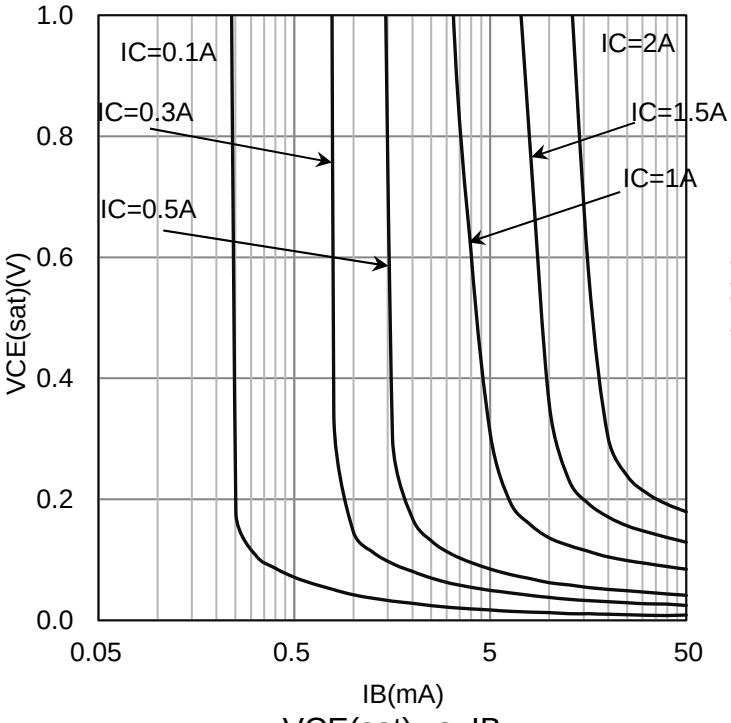
7.ELECTRICAL CHARACTERISTICS CURVES



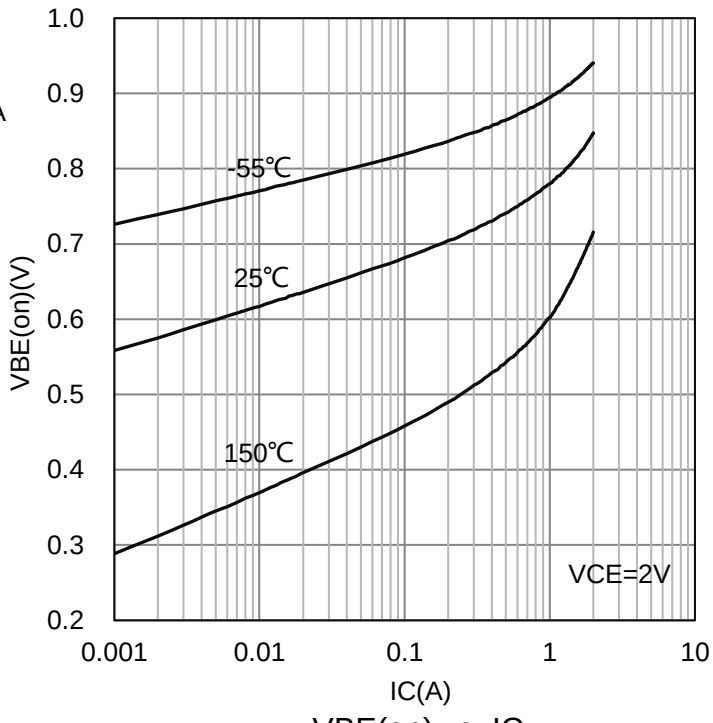
HFE vs. IC



IC vs. VCE

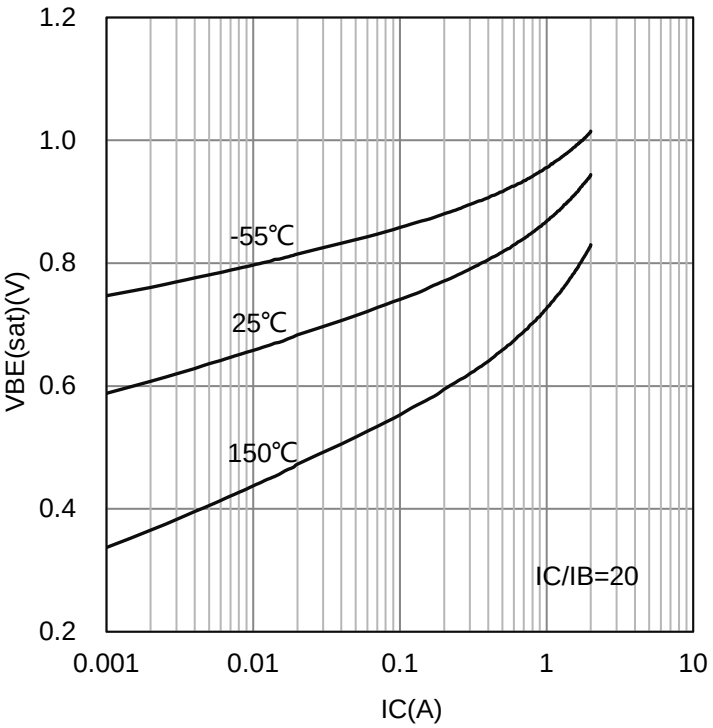


VCE(sat) vs. IB

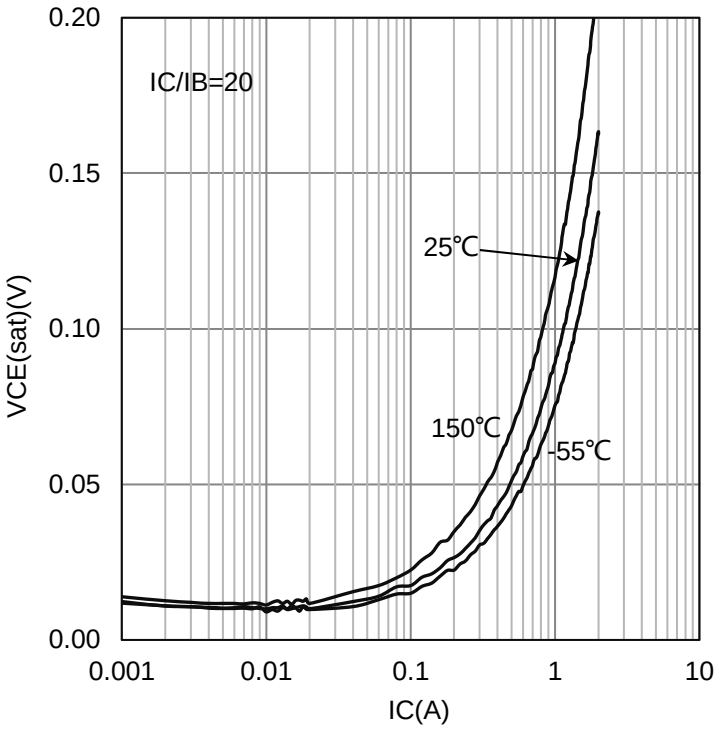


VBE(on) vs. IC

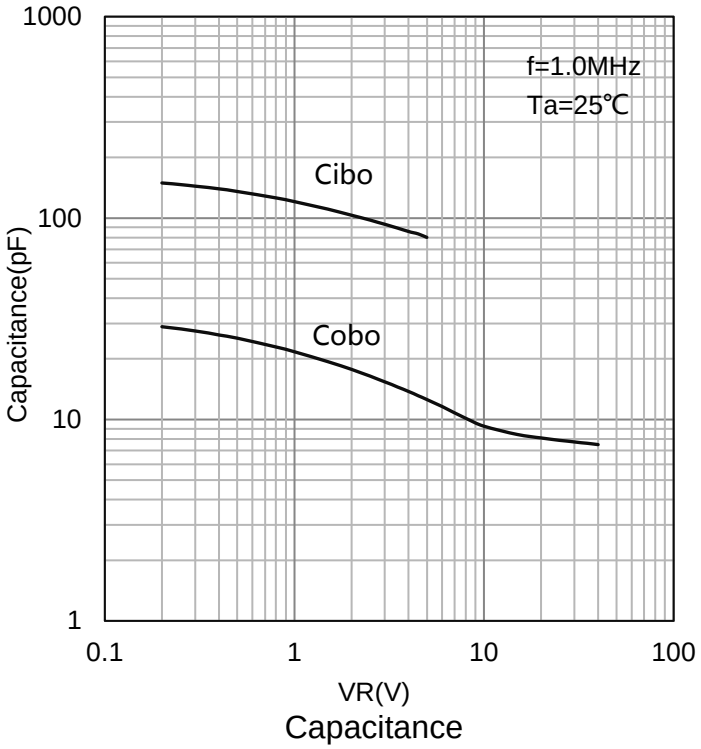
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



VBE(sat) vs. IC



VCE(sat) vs. IC



Capacitance

8.OUTLINE AND DIMENSIONS

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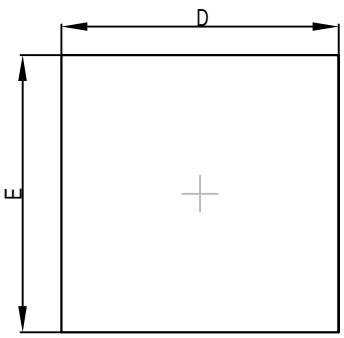
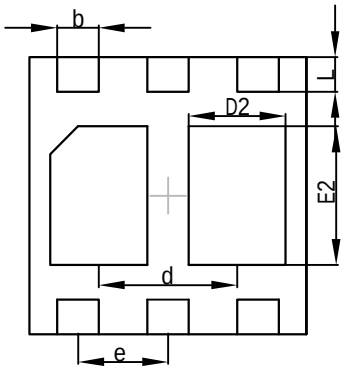
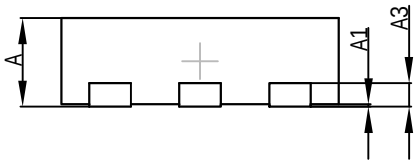


TOP VIEW



BOTTOM VIEW



SIDE VIEW

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Dim	Min	Typ	Max
D	1.95	2.00	2.05
E	1.95	2.00	2.05
e	-	0.65	-
L	0.20	0.25	0.30
b	0.25	0.30	0.35
d	-	1.00	-
A	0.60	0.65	0.70
A1	0	0.02	0.05
A3	-	0.152	-
E2	0.95	1.00	1.05
D2	0.65	0.70	0.75
All Dimensions in mm			

9.SOLDERING FOOTPRINT

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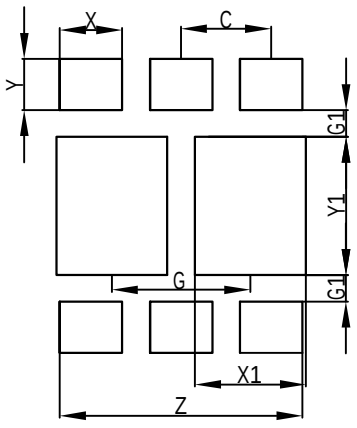

Dimensions	(mm)
X	0.45
Y	0.37
X1	0.80
Y1	1.00
C	0.65
G	1.00
G1	0.19
Z	1.75

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