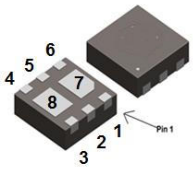
NPN Silicon Epitaxial Planar Transistor

Features

- Low saturation

RoHS
COMPLIAN

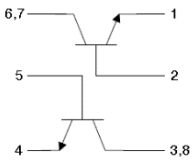


DFN2020-6LC

Mechanical Data

- Case: DFN2020-6LC
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability, per MIL-STD-202, Method 208

Epuivalent circuit



Maximum Ratings & Thermal Characteristics (@ T_A = 25℃ unless otherwise specified)			
Parameter	**Symbol**	**Value**	**Unit**
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Breakdown Voltage	V_{CEO}	60	V
Emitter-Base Breakdown Voltage	V_{EBO}	6	V
Collector Current (Continuous)	I_C	1	A
Collector Current (Peak)	I_{CM}	2	A
Power Dissipation (T_A = 25°C) *1	P_D	1.8	W
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	69	°C/W
Junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Note

1: Per JESD51−7 with 100 mm^2 pad area and 2 oz. Cu (Single−Operation)

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)						
Parameter	**Symbol**	**Test Condition**	**Min**	**Typ.**	**Max**	**Unit**
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 100μA, I_E = 0	60			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10mA, I_B = 0	60			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 100μA, I_C = 0	6			V
Collector Cut-off Current	I_{CBO}	V_{CB} = 60V, I_E = 0			0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 5V, I_C = 0			0.1	μA
DC Current Gain	h_{FE}	V_{CE} = 2V, I_C = 100mA	150			
		V_{CE} = 2V, I_C = 500mA	120			
		V_{CE} = 2V, I_C = 1A	90			
		V_{CE} = 2V, I_C = 2A	35			
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 0.5A, I_B = 0.05A			0.1	V
		I_C = 1A, I_B = 0.05A			0.2	V
		I_C = 1A, I_B = 0.1A			0.18	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 0.5A, I_B = 0.05A			1	V
		I_C = 1A, I_B = 0.05A			1	V
		I_C = 1A, I_B = 0.1A			1.1	V
Base-emitter On Voltage	$V_{BE(on)}$	I_C = 0.5A, V_{CE} = 2V			0.9	V
Output Capacity	C_{ob}	V_{CB} = 10V, f = 1MHz		10		pF
Current-Gain—Bandwidth Product	f_T	I_C = 0.05A, V_{CE} = 2V f = 100MHz		180		MHz

Ratings and Characteristics Curves

(@ T_A = 25°C unless otherwise specified)

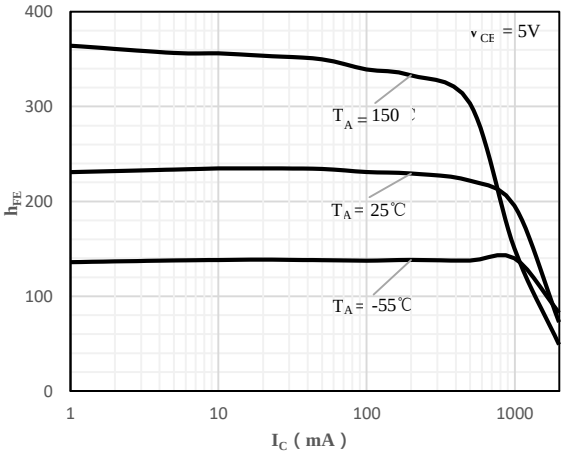


Fig 1 h_{FE} vs. I_C

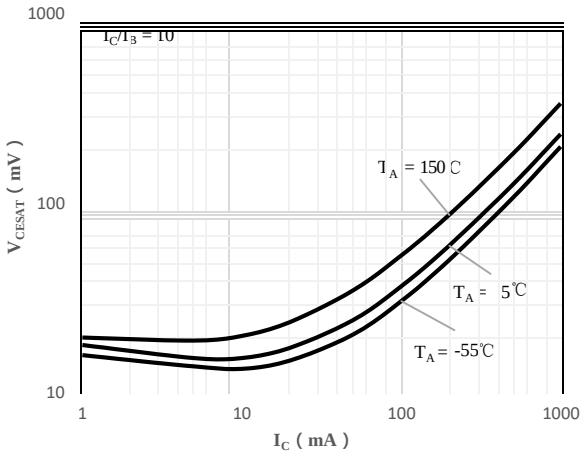


Fig 2 $V_{CE(sat)}$ vs. I_C

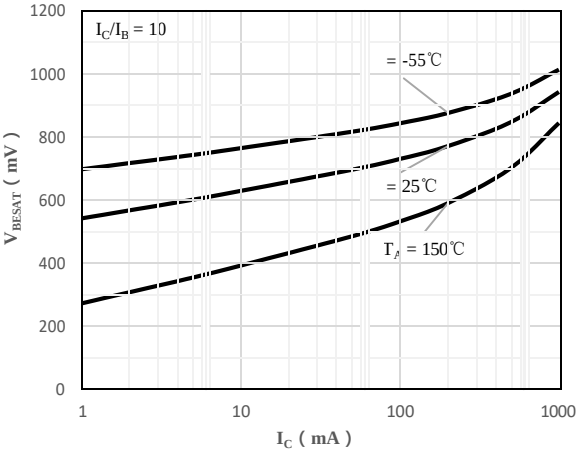


Fig 3 $V_{BE(sat)}$ vs. I_C

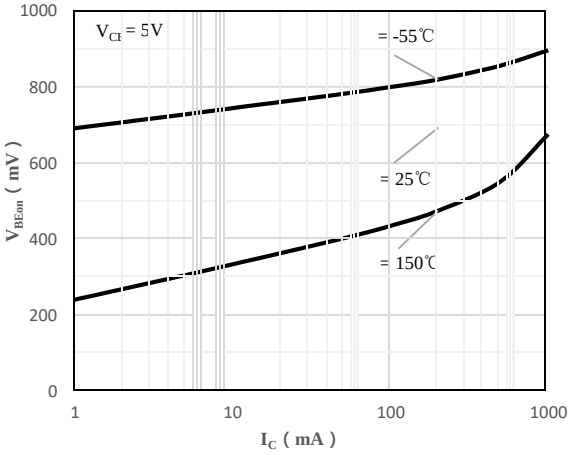
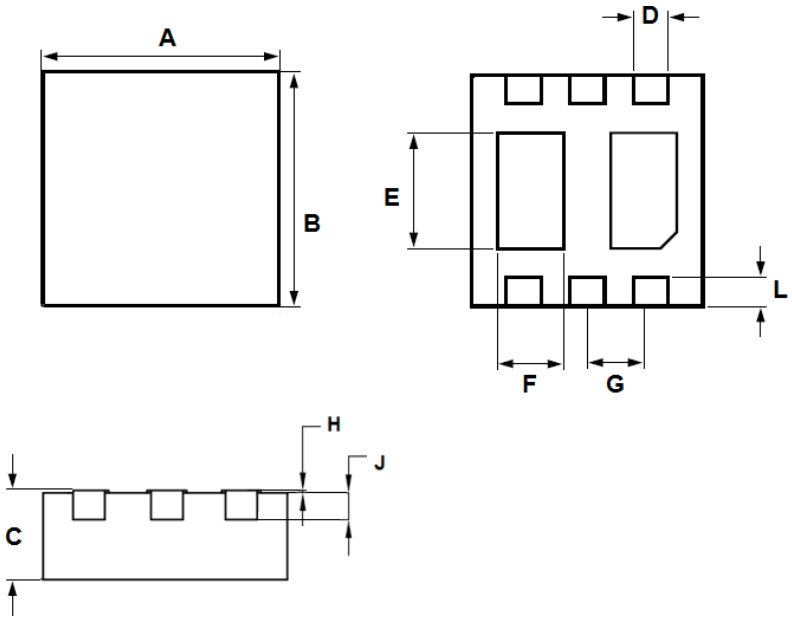


Fig 4 $V_{BE(ON)}$ vs. I_C

Package Outline Dimensions

in inches (millimeters)



DFN2020-6LC		
Dimension	**Min.**	**Max.**
A	1.900	2.100
B	1.900	2.100
C	0.500	0.600
D	0.250	0.350
E	0.800	1.000
F	0.600	0.800
G	0.550	0.750
H	0.000	0.050
J	0.103	0.303
L	0.174	0.326

Revision History

Document Version	Date of release	Discroption of changes
Rev.A	2020.03.04	First issue

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