

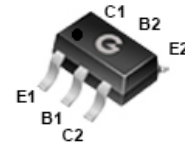
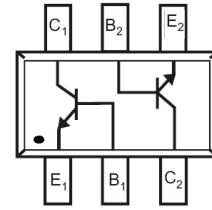
Features

- Epitaxial planar die construction
- Ultra-small surface mount package

HF

Mechanical Data

- Case: SOT-363
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



SOT-363

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BL2515DW	SOT-363	3000 pcs / Tape & Reel	2515

Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current (Continuous)	I_C	800	mA
Collector Current (Pulse) ^{*1}	I_{CM}	1.5	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ($T_A = 25^\circ\text{C}$) ^{*2}	P_D	200	mW
Thermal Resistance (Junction-to-Ambient)	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Operating Junction Temperature	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	20	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 2\text{mA}, I_B = 0$	15	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	6	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 15\text{V}, I_E = 0$	-	-	100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 6\text{V}, I_C = 0$	-	-	100	nA
DC Current Gain ^{*3}	h_{FE}	$V_{CE} = 1\text{V}, I_C = 10\text{mA}$	160	-	-	-
		$V_{CE} = 1\text{V}, I_C = 100\text{mA}$	180	-	560	-
		$V_{CE} = 1\text{V}, I_C = 500\text{mA}$	150	-	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 0.5\text{mA}$	-	-	25	mV
		$I_C = 200\text{mA}, I_B = 10\text{mA}$	-	-	150	mV
		$I_C = 500\text{mA}, I_B = 50\text{mA}$	-	-	250	mV
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	-	-	1.1	V
Base-Emitter Voltage	$V_{BE(ON)}$	$V_{CE} = 2\text{V}, I_C = 100\text{mA}$	-	-	0.9	V
Transition Frequency	f_T	$V_{CE} = 10\text{V}, I_C = 50\text{mA}$ $f = 100\text{MHz}$	100	300	-	MHz
Output Capacitance	C_{OBO}	$V_{CB} = 10\text{V}, f = 1.0\text{MHz}$	-	6.5	-	pF

Notes:

1. Single pulse, $P_w = 10\text{ms}$
2. 50mW per element must not be exceeded
3. Pulse Test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

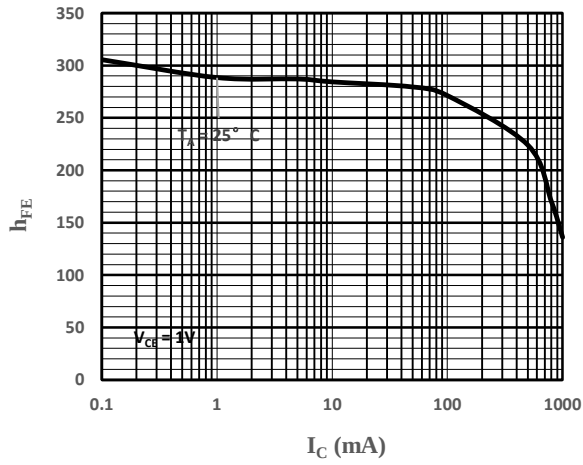


Fig 1 h_{FE} vs. I_C

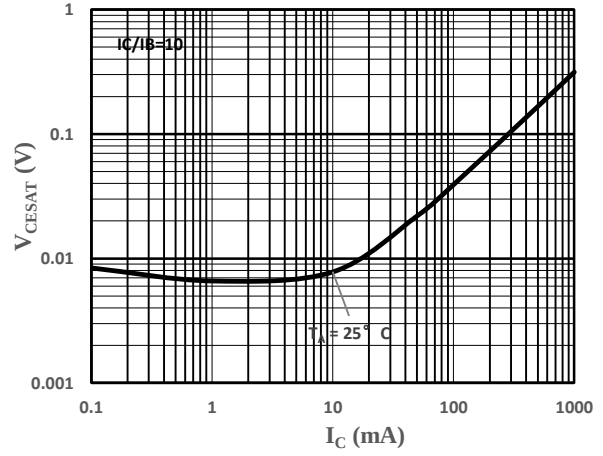


Fig 2 $V_{CE(sat)}$ vs. I_C

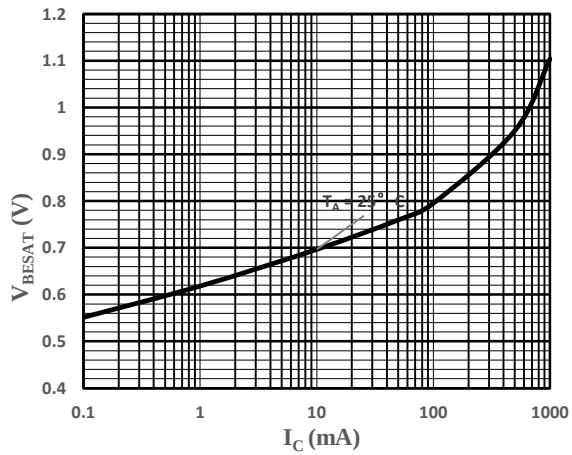
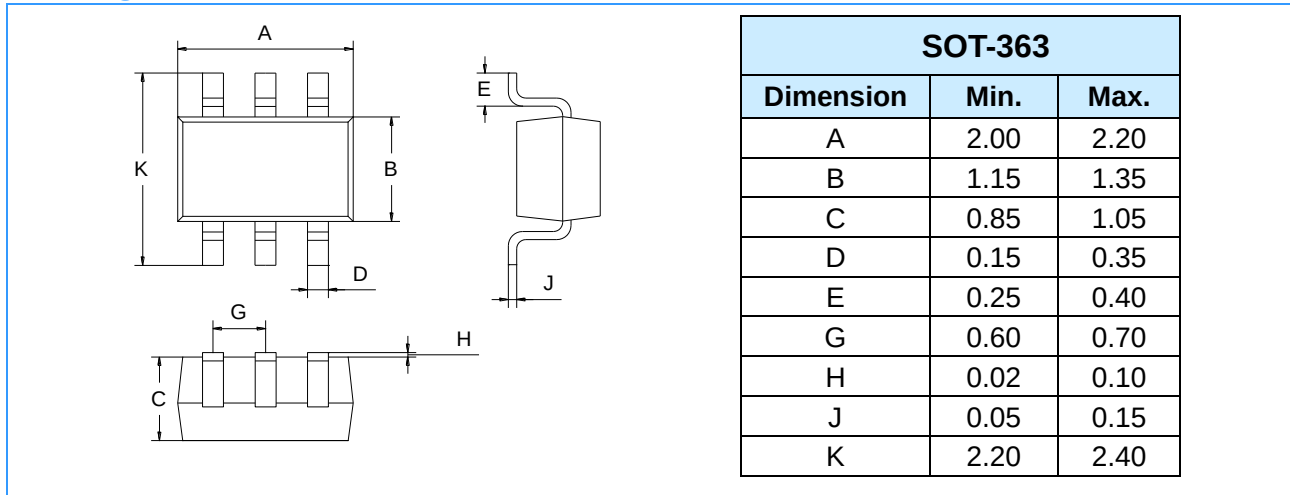
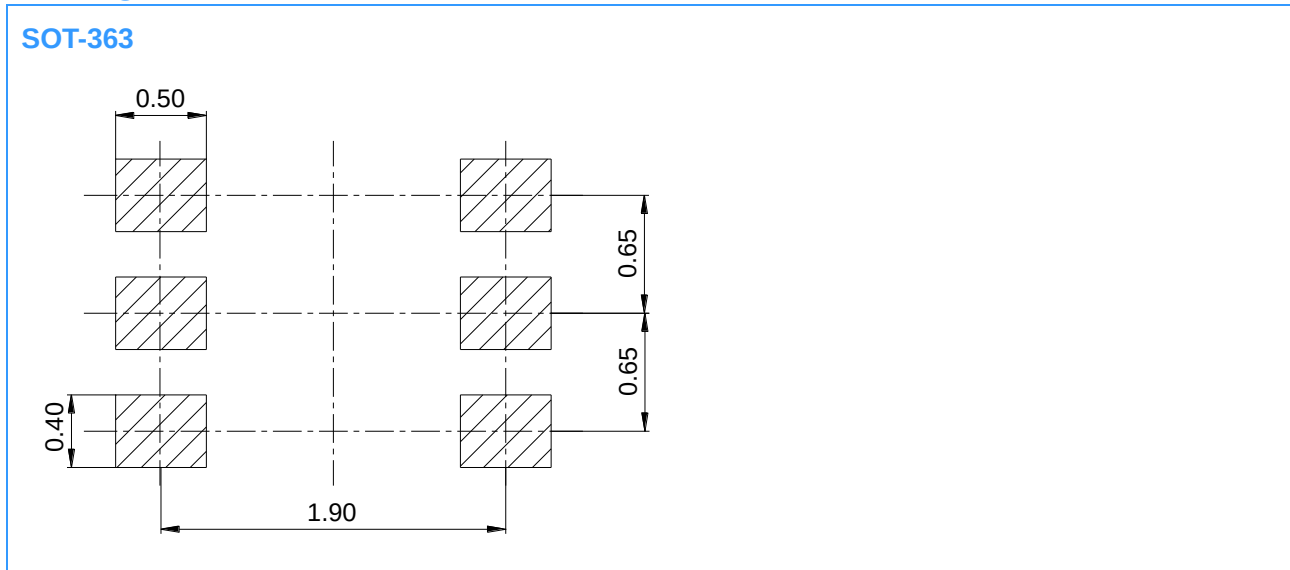


Fig 3 $V_{BE(sat)}$ vs. I_C

Package Outline Dimensions (Unit: mm)



Package Outline Dimensions (Unit: mm)



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