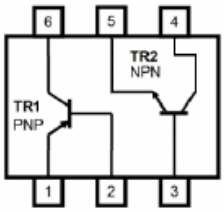
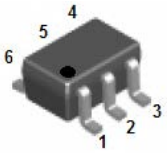
UMZ2N

Dual Bipolar Transistor(NPN+PNP)

FEATURES

- Available in SOT-363 Package.
- Solderability：MIL-STD-202, Method 208
- Full RoHS Compliance.





SOT-363

ORDERING INFORMATION

Type No.	Marking	Package Code
UMZ2N	Z2	SOT-363

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter	Value	Unit
TR1 (PNP)			
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-6	V
IC	Collector Current - Continuous	150	mA
TR2 (NPN)			
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current - Continuous	150	mA
P_{tot}	Total Power Dissipation	150	mW
T_J	Junction Temperature	150	℃
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	℃

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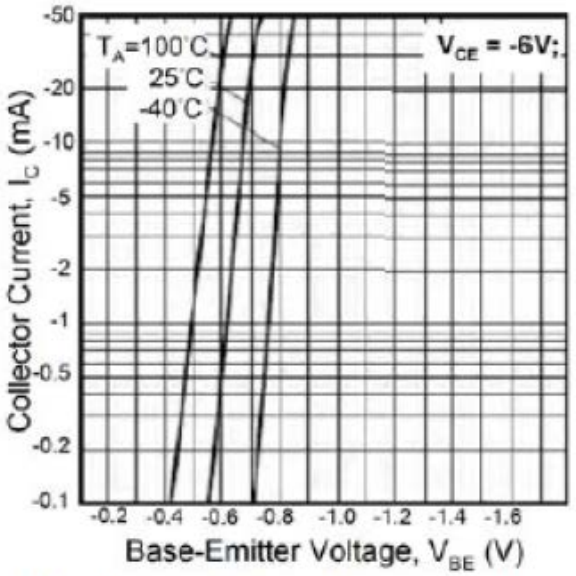
Dual Bipolar Transistor(NPN+PNP)

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

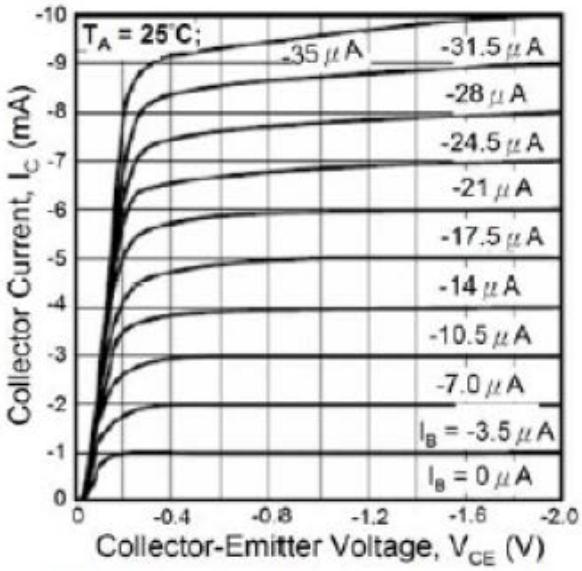
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
TR1 (PNP)						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = -50uA, I_E = 0	-60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = -1mA, I_B = 0	-50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = -50uA, I_C = 0	-6	-	-	V
RCollector Cut-Off Current	I_{CBO}	V_{CB} = -60V, I_E = 0	-	-	-0.1	uA
Emitter Cut-Off Current	I_{EBO}	V_{EB} = -6V, I_C = 0	-	-	-0.1	uA
DC Current Gain	h_{FE}	V_{CE} = -6V, I_C = -1mA	120	-	560	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = -50mA, I_B = -5mA	-	-	-0.5	V
Transition Frequency	f_T	V_{CE} = -12V, I_E = -2mA, f = 100MHz	-	140	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = -12V, I_E = 0, f = 1MHz	-	-	5	pF
TR2 (NPN)						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 50uA, I_E = 0	60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, I_B = 0	50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 50uA, I_C = 0	7	-	-	V
RCollector Cut-Off Current	I_{CBO}	V_{CB} = 60V, I_E = 0	-	-	0.1	uA
Emitter Cut-Off Current	I_{EBO}	V_{EB} =7V, I_C = 0	-	-	0.1	uA
DC Current Gain	h_{FE}	V_{CE} = 6V, I_C = 1mA	120	-	560	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 50mA, I_B = 5mA	-	-	0.4	V
Transition Frequency	f_T	V_{CE} = 12V, I_E = 2mA, f = 100MHz	-	180	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 12V, I_E = 0, f = 1MHz	-	-	3.5	pF

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

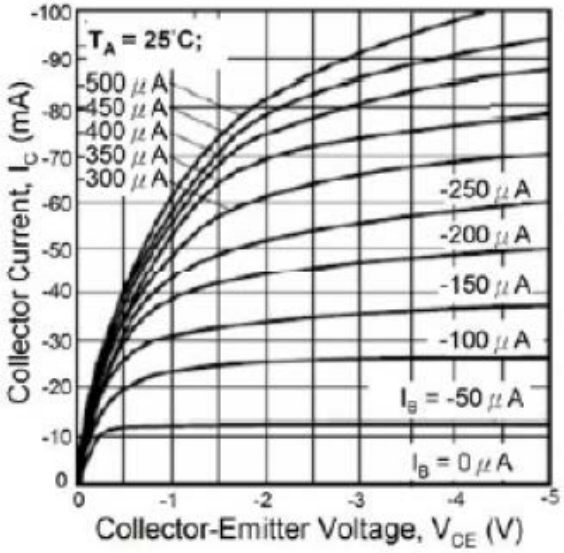
TR1 (PNP):



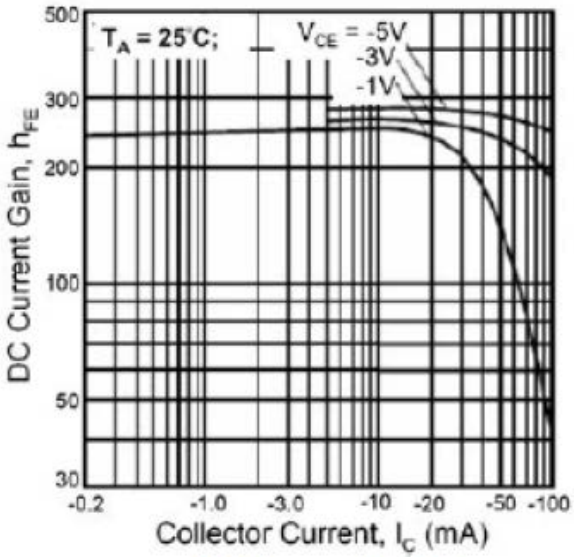
(1): Propagation Characteristics



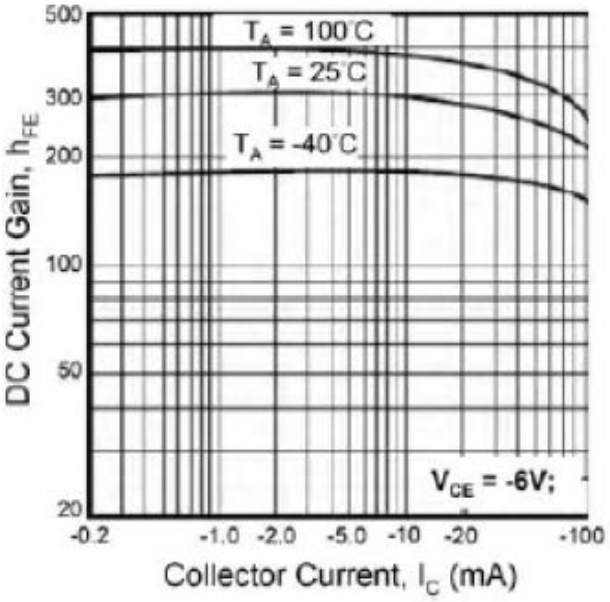
(2): Output Characteristics - I



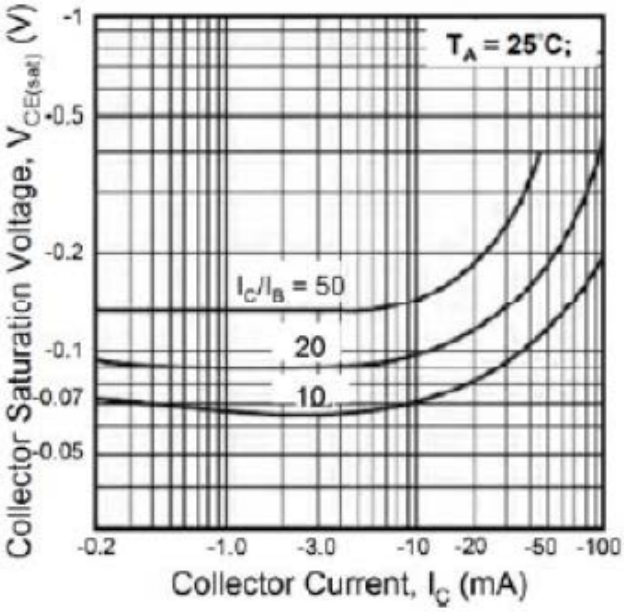
(3): Output Characteristics - II



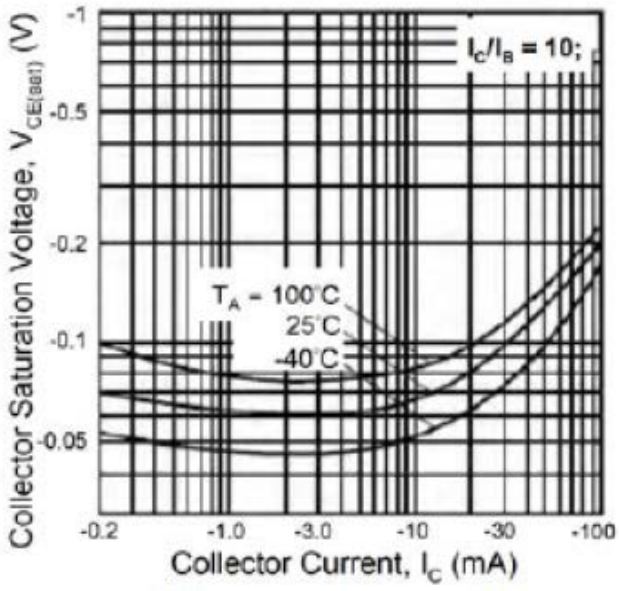
(4): h_{FE} vs. I_C - I



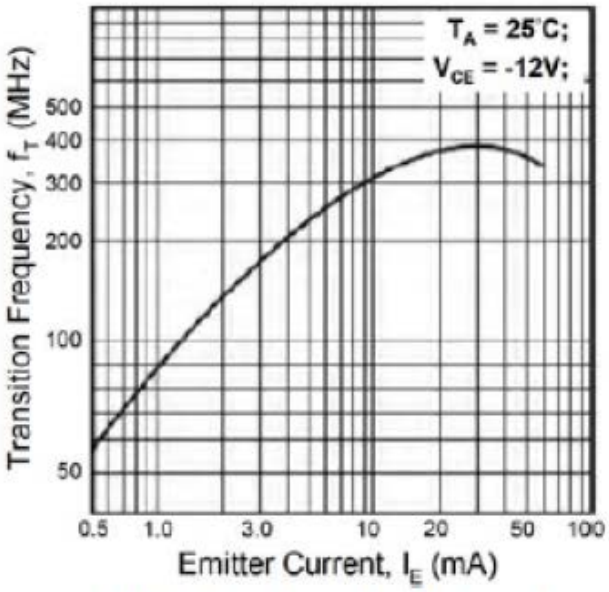
(5): h_{FE} vs. I_C - II



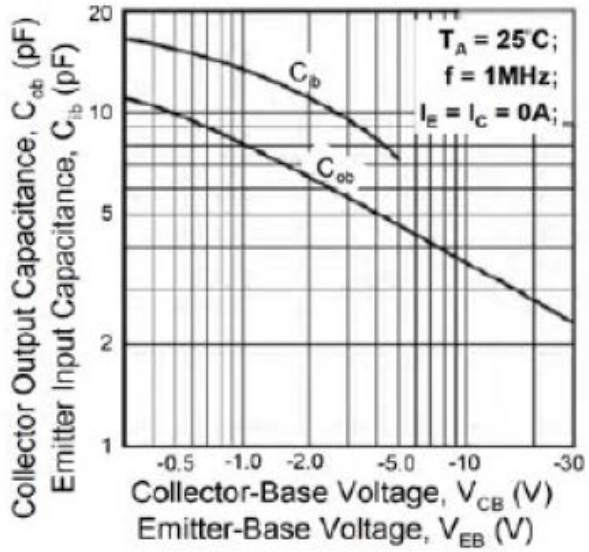
(6): $V_{CE(sat)}$ vs. I_C – I



(7): $V_{CE(sat)}$ vs. I_C – II

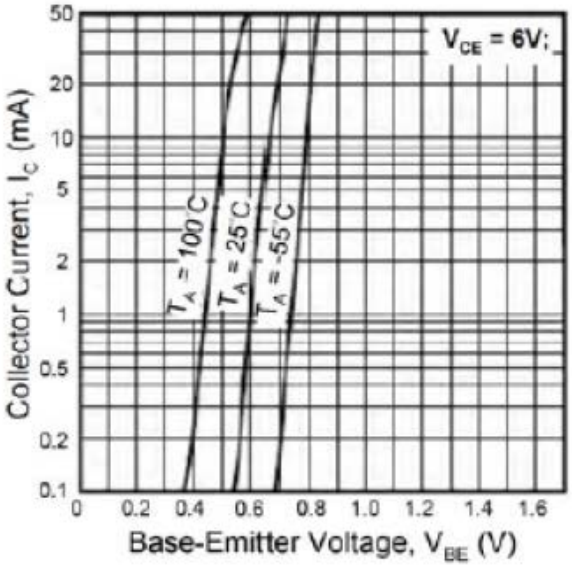


(8): Gain Bandwidth Product vs. Emitter Current

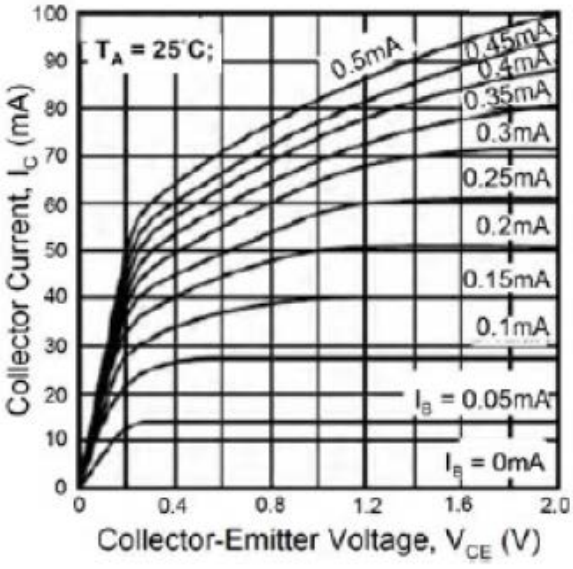


(9): C_{OB} vs. V_{CB}
C_{iB} vs. V_{EB}

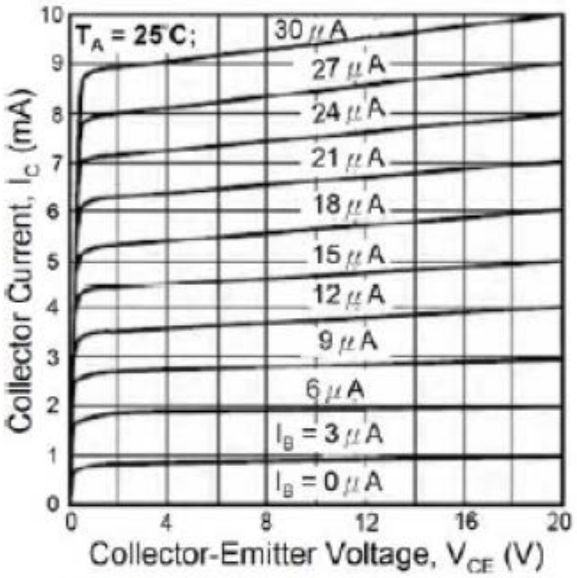
TR2 (NPN):



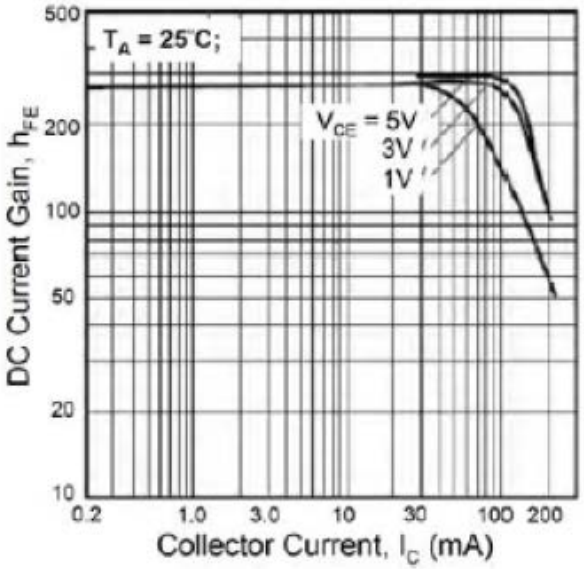
(10): Propagation Characteristics



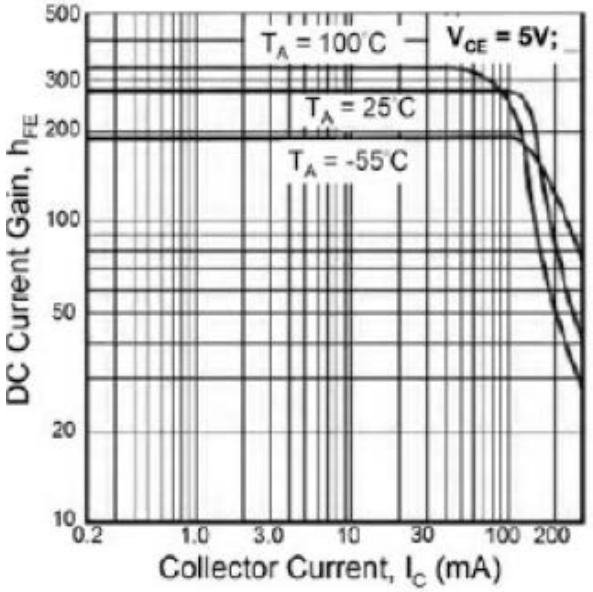
(11): Output Characteristics - I



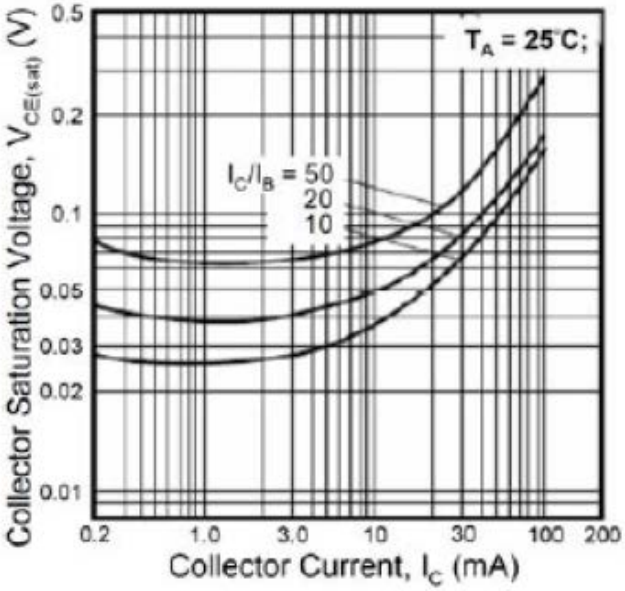
(12): Output Characteristics - II



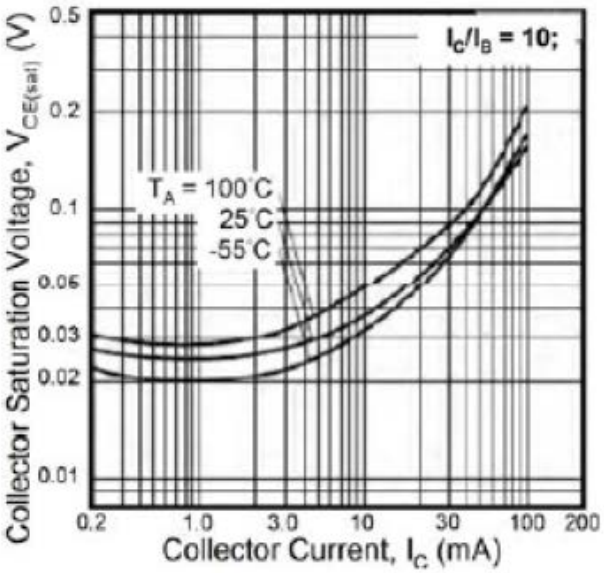
(13): h_{FE} vs. I_C - I



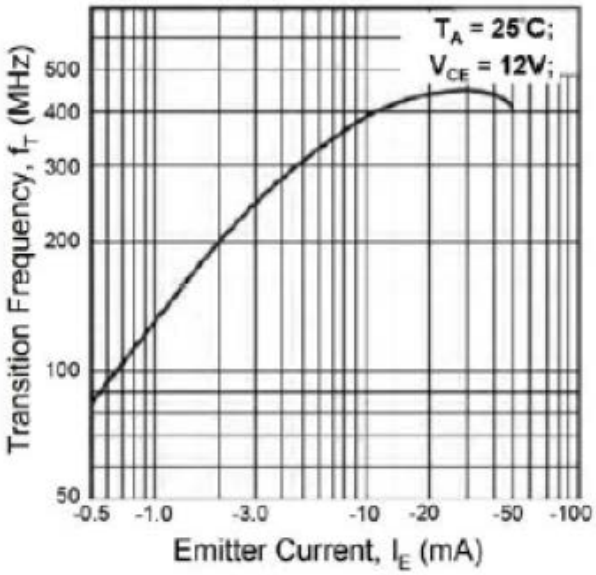
(14): h_{FE} vs. I_C - II



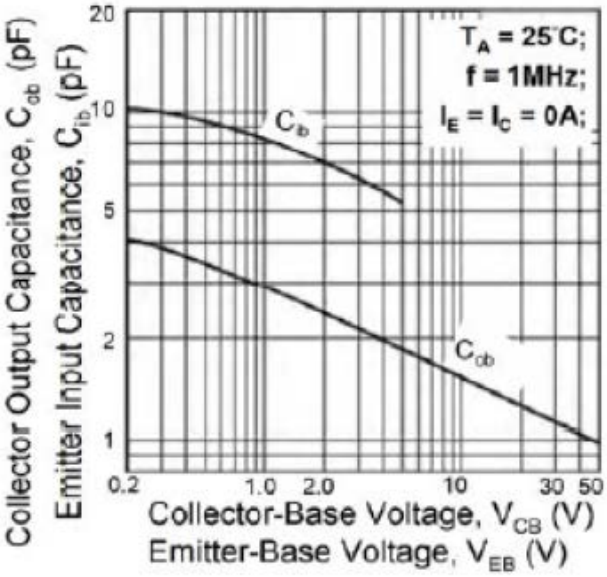
(15): $V_{CE(sat)}$ vs. I_C - I



(16): $V_{CE(sat)}$ vs. I_C – II



(17): Gain Bandwidth Product vs. Emitter Current



(18): C_{OB} vs. V_{CB}
C_{iB} vs. V_{EB}

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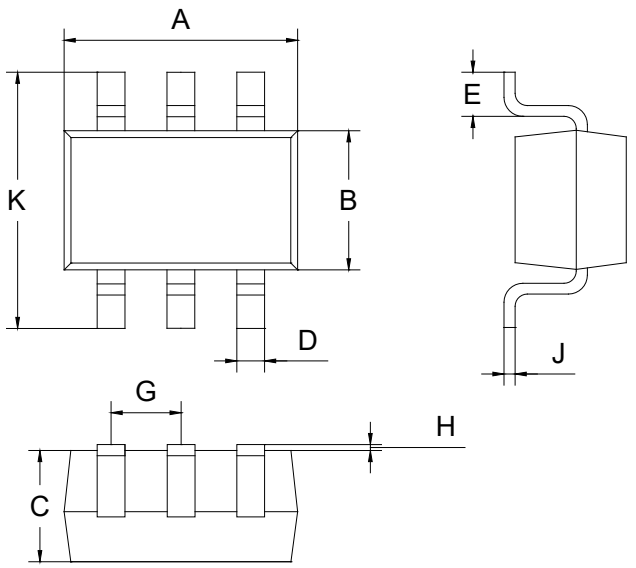
Dual Bipolar Transistor(NPN+PNP)

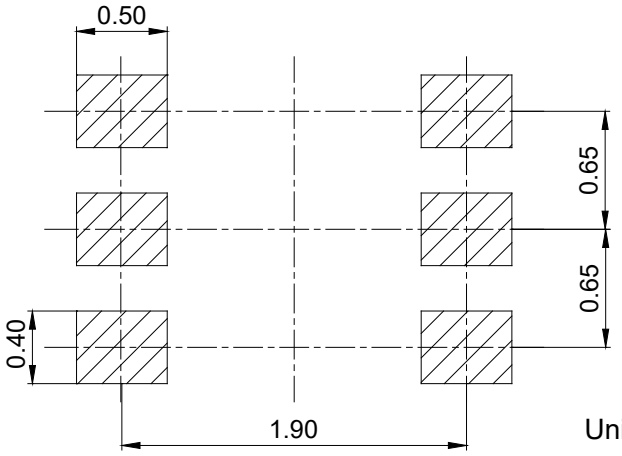
PACKAGE OUTLINE

Plastic surface mounted package



SOT-363		
Dim	Min	Max
A	2.00	2.20
B	1.15	1.35
C	0.85	1.05
D	0.15	0.35
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
UMZ2N	SOT-363	3000/Tape&Reel