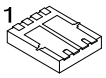
COMPLEMENTARY NPN/PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR



DFN-8(5x6)

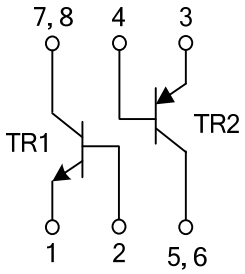
■ DESCRIPTION

The UTC **BD2378** is a complementary NPN/PNP small signal surface mount transistor. It's suitable for low power amplification and switch.

■ FEATURES

* Epitaxial Planar Die Construction
* Extremely-Small Surface Mount Package

■ EQUIVALENT CIRCUIT



■ ORDERING INFORMATION

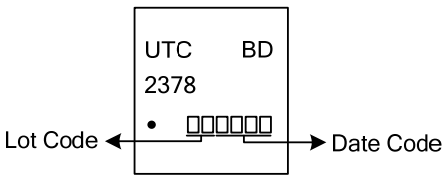
Ordering Number	Package								Packing
		1	2	3	4	5	6	7	8	
BD2378G-K08-5060-R	DFN-8(5×6)	E1	B1	E2	B2	C2	C2	C1	C1	Tape Reel

Note: Pin Assignment: E: Emitter B: Best C: Collector

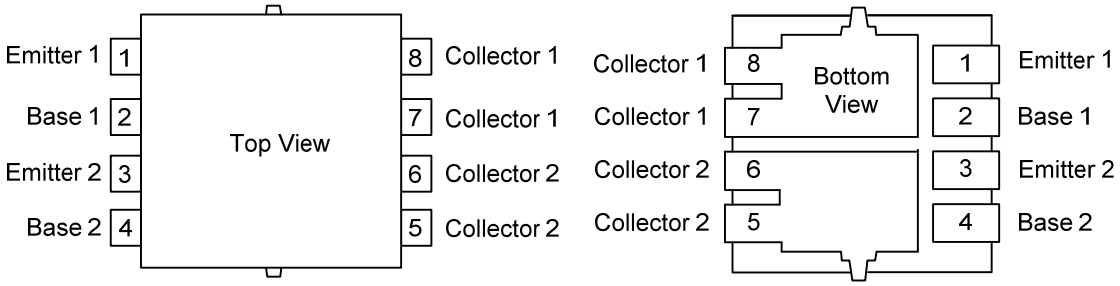
BD2378G-K08-5060-R

(1)Packing Type	(1) R: Tape Reel
(2)Package Type	(2) K08-5060: DFN-8(5×6)
(3)Green Package	(3) G: Halogen Free and Lead Free

■ MARKING



■ PIN CONFIGURATION



DFN-8(5×6)

■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified.)

TR1

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	2	A
Collector Dissipation	P_C	1.25	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55~150	°C

TR2

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-100	V
Collector-Emitter Voltage	V_{CEO}	-80	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-2	A
Collector Power Dissipation	Pc	1.25	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55~150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified.)

TR1

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=1mA, I_E=0	100			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=100mA, I_B=0	80			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=1mA, I_C=0	5			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=100V, I_E=0			100	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=5V, I_C=0			1	mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=1A, I_B=100mA			0.6	V
DC Current Gain	h_{FE} (1)	I_C=150mA,V_{CE}=2V	40			
	h_{FE} (2)	I_C=1A,V_{CE}=2V	25			
Transition Frequency	f_T	I_C=250mA, V_{CE}=10V, f=10MHz	3			MHz

TR2

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=-1mA, I_E=0	-100			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=-100mA, I_B=0	-80			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_C=-1mA, I_E=0	-5			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=-100V, I_E=0			-100	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=-5V, I_C=0			-1	mA
DC Current Gain	$h_{FE(1)}$	V_{CE}=-2V, I_C=-150mA	40			
	$h_{FE(2)}$	V_{CE}=-2V, I_C=-1A	25			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-1A, I_B=-100mA			-0.6	V
Transition Frequency	f_T	V_{CE}=-10V, I_C=-250mA, f=10MHz	3			MHz