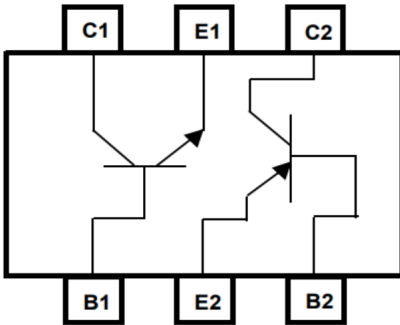


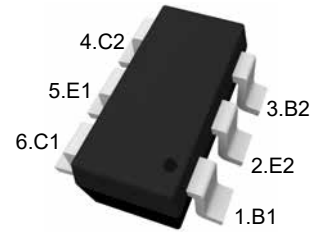
Features

- For switching and amplifier applications

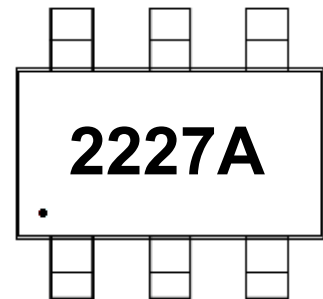
Equivalent Circuit



SOT-23-6



Marking Code



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	NPN Transistors	PNP Transistors	Unit
Collector Base Voltage	V_{CBO}	75	-60	V
Collector Emitter Voltage	V_{CEO}	40	-60	V
Emitter Base Voltage	V_{EBO}	6	-5	V
Collector Current	I_C	600	-600	mA
Maximum Power Dissipation	P_D	1		W
Junction Temperature	T_J	150		°C
Storage Temperature Range	T_{STG}	-55 to +150		°C



AA8H888+5G; Complementary Medium Power Transistors

NPN Electrical Characteristics (T_A=25°C)

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at V _{CE} = 10 V, I _C = 0.1 mA at V _{CE} = 10 V, I _C = 1 mA at V _{CE} = 10 V, I _C = 10 mA at V _{CE} = 1 V, I _C = 150 mA at V _{CE} = 10 V, I _C = 150 mA at V _{CE} = 10 V, I _C = 500 mA	H _{FE}	35 50 75 50 100 40	-- -- -- -- 300. --	--
Collector Base Cutoff Current at V _{CB} = 60 V	I _{CBO}	--	10	nA
Emitter Base Cutoff Current at V _{EB} = 3 V	I _{EBO}	--	100	nA
Collector Base Breakdown Voltage at I _C = 10 μA	V _{(BR)CBO}	75	--	V
Collector Emitter Breakdown Voltage at I _C = 10 mA	V _{(BR)CEO}	40	--	V
Emitter Base Breakdown Voltage at I _E = 10 μA	V _{(BR)EBO}	6	--	V
Collector Emitter Saturation Voltage at I _C = 150 mA, I _B = 15 mA at I _C = 500 mA, I _B = 50 mA	V _{CE(sat)}	-- --	0.3 1.0	V
Base Emitter Saturation Voltage at I _C = 150 mA, I _B = 15 mA at I _C = 500 mA, I _B = 50 mA	V _{BE(sat)}	0.6 --	1.2 2.0	V
Transition Frequency at V _{CE} = 20 V, I _E = -20 mA, f = 100 MHz	F _T	300	--	MHz
Output Capacitance at V _{CB} = 10 V, f = 100 KHz	C _{ob}	--	8	pF



MMDT2227ASG

Complementary Medium Power Transistors

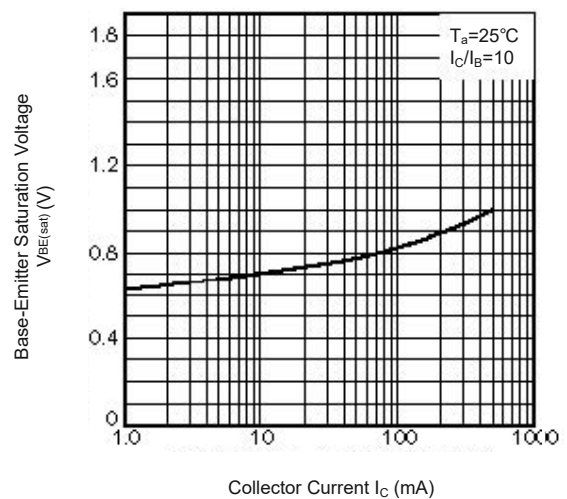
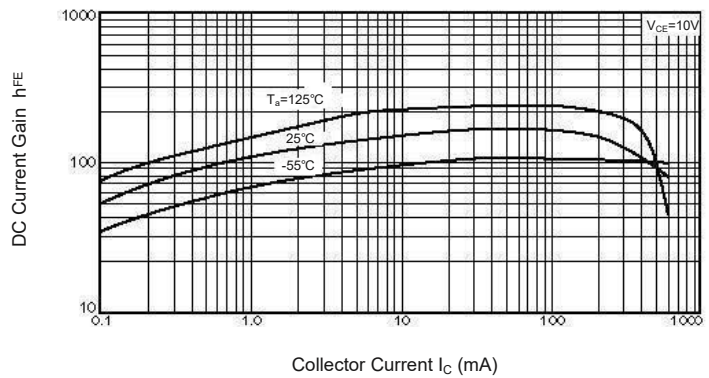
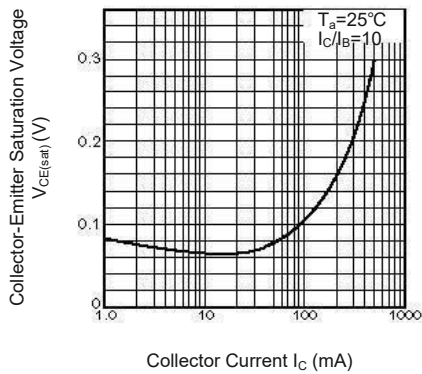
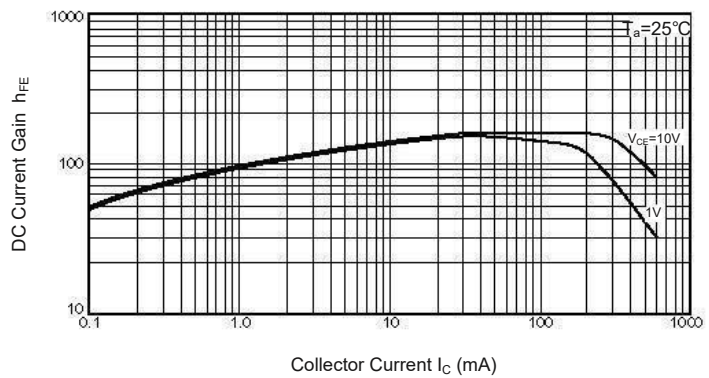
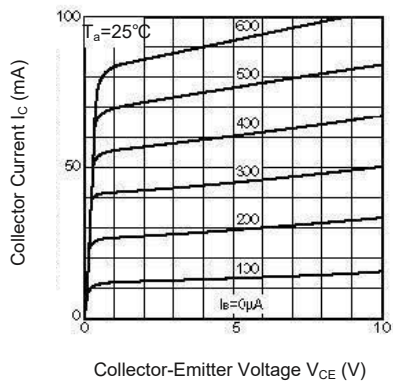
PNP Electrical Characteristics ($T_A=25^\circ\text{C}$)

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = -10\text{ V}$, $I_C = -0.1\text{ mA}$ at $V_{CE} = -10\text{ V}$, $I_C = -1\text{ mA}$ at $V_{CE} = -10\text{ V}$, $I_C = -10\text{ mA}$ at $V_{CE} = -10\text{ V}$, $I_C = -150\text{ mA}$ at $V_{CE} = -10\text{ V}$, $I_C = -500\text{ mA}$	H_{FE}	75 100 100 100 50	-- -- -- 300 --	--
Collector Base Cutoff Current at $V_{CB} = -50\text{ V}$	$-I_{CBO}$	--	10	nA
Collector Base Breakdown Voltage at $I_C = -10\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	60	--	V
Collector Emitter Breakdown Voltage at $I_C = -10\text{ mA}$	$-V_{(BR)CEO}$	60	--	V
Emitter Base Breakdown Voltage at $I_E = -10\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	--	V
Collector Emitter Saturation Voltage at $I_C = -150\text{ mA}$, $I_B = -15\text{ mA}$ at $I_C = -500\text{ mA}$, $I_B = -50\text{ mA}$	$-V_{CE(sat)}$	-- --	0.4 1.6	V
Base Emitter Saturation Voltage at $I_C = -150\text{ mA}$, $I_B = -15\text{ mA}$ at $I_C = -500\text{ mA}$, $I_B = -50\text{ mA}$	$-V_{BE(sat)}$	-- --	1.3 2.6	V
Transition Frequency at $V_{CE} = -20\text{ V}$, $I_C = -50\text{ mA}$, $f = 100\text{ MHz}$	F_T	200	--	MHz
Output Capacitance at $V_{CB} = -10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	--	8	pF



AA8H88+5G; Complementary Medium Power Transistors

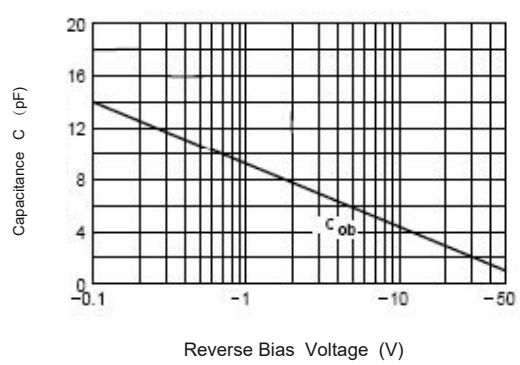
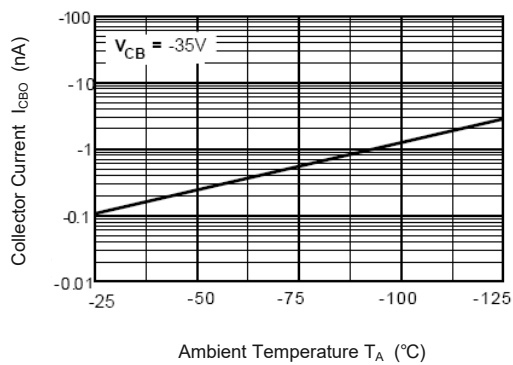
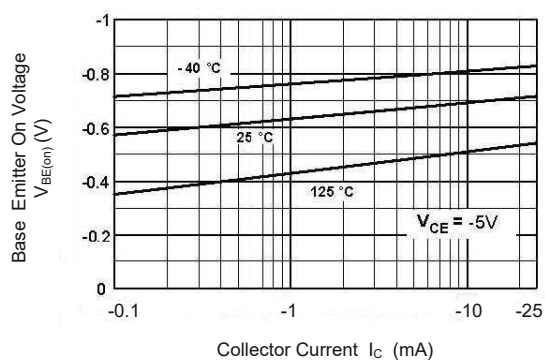
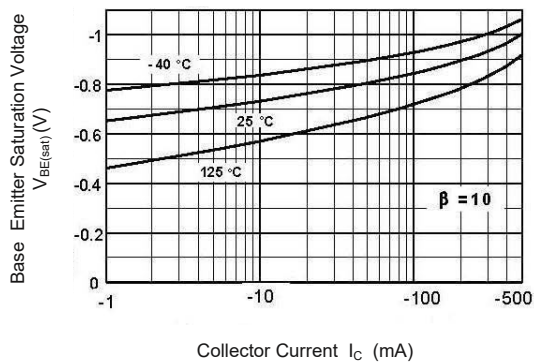
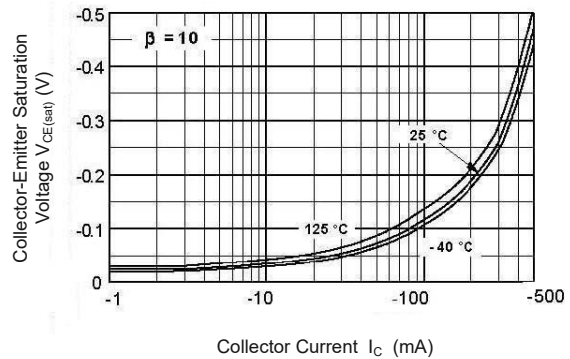
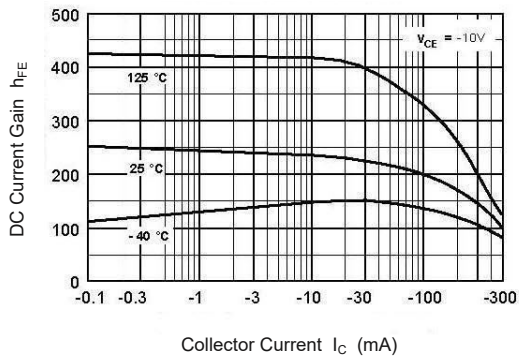
NPN Typical Characteristic Curves





AA8H88+5G; Complementary Medium Power Transistors

PNP Typical Characteristic Curves



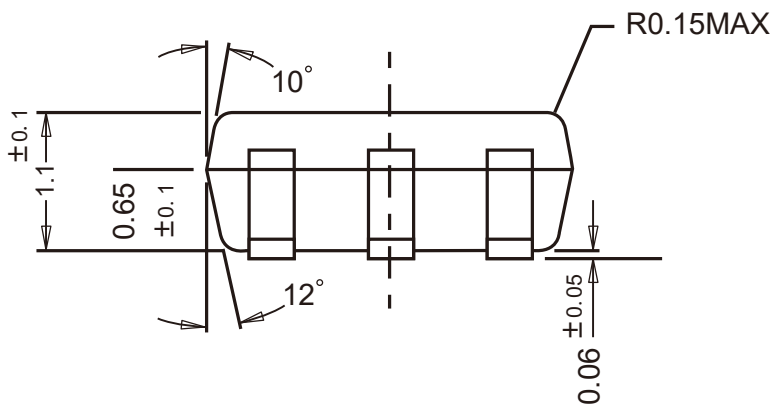
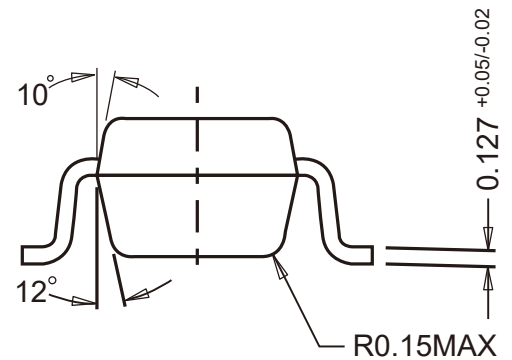
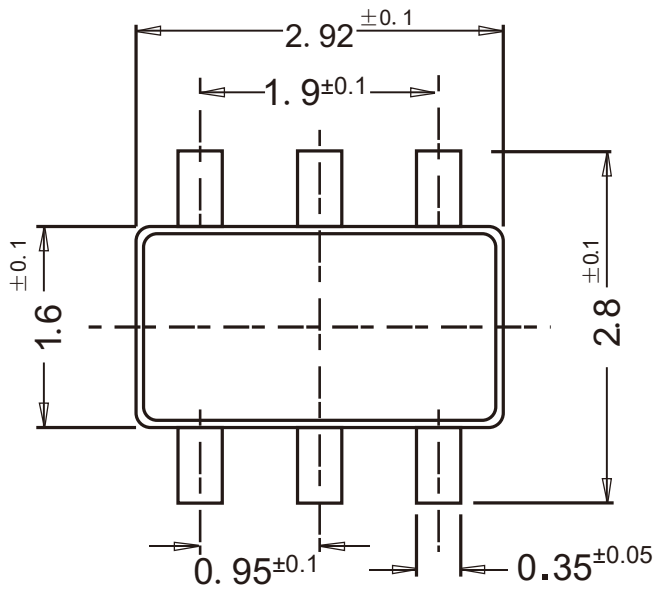


AA8H88+5G; Complementary Medium Power Transistors

Package Outline

SOT-23-6

Dimensions in mm

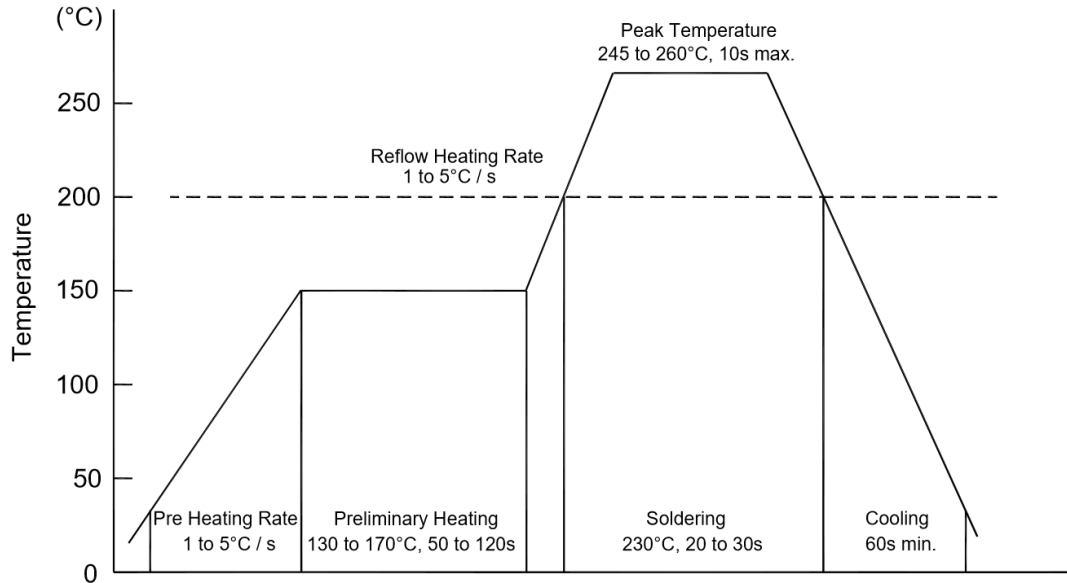


Ordering Information

Device	Package	Shipping
MMDT2227ASG	SOT-23-6	3,000PCS/Reel&7inches

Conditions of Soldering and Storage

◆ Recommended condition of reflow soldering



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters:

- Time length of peak temperature (longer)
- Time length of soldering (longer)
- Thickness of solder paste (thicker)

◆ Conditions of hand soldering

- Temperature: 370 °C
- Time: 3s max.
- Times: one time

◆ Storage conditions

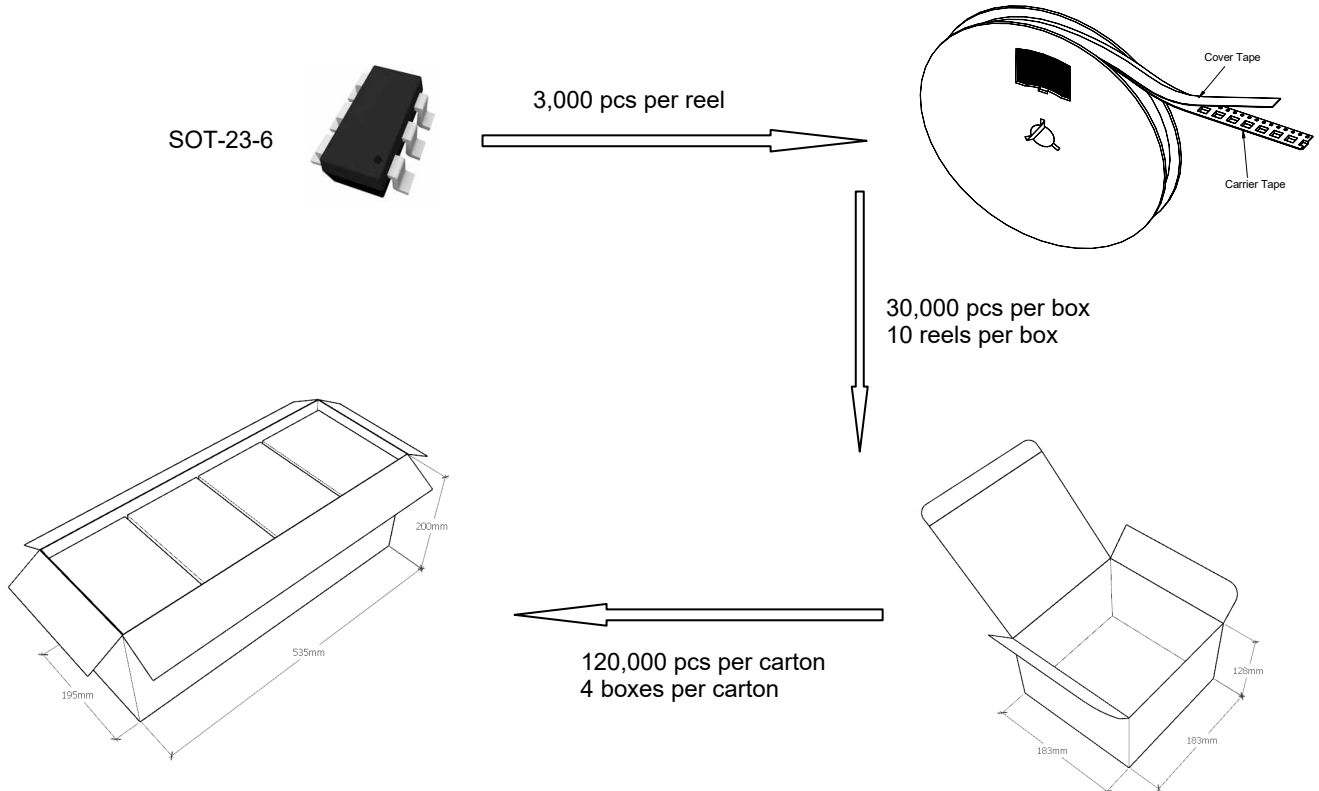
- **Temperature**
5 to 40 °C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing



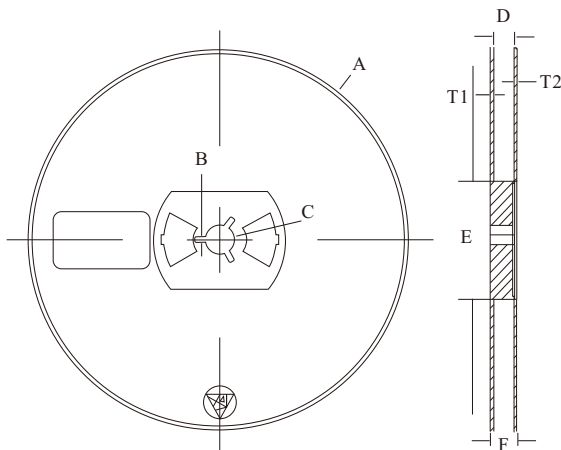
AA8H88+5G; Complementary Medium Power Transistors

Package Specifications

- The method of packaging

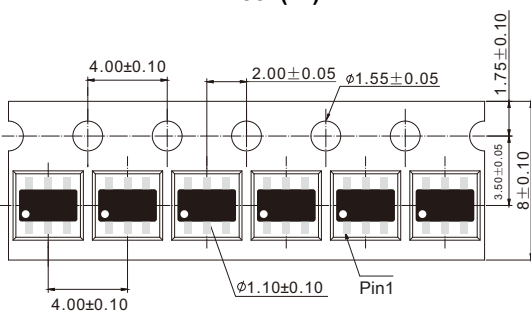


◆ Embossed tape and reel data



Symbol	Value (unit: mm)
A	∅ 177.8±1
B	2.7±0.2
C	∅ 13.5±0.2
E	∅ 54.5±0.2
F	12.3±0.3
D	9.6+2/-0.3
T1	1.0±0.2
T2	1.2±0.2

Reel (7")



Tape (8mm)