HIGH VOLTAGE NPN TRANSISTOR APT27

General Description

The APT27 series are high voltage, high speed switching NPN power transistor specially designed for off-line switch mode power supplies with low output power.

The APT27 series is available in TO-92 package.

Features

- High Switching Speed
- High Collector-Emitter Voltage
- Low Cost

Applications

- Battery Chargers for Mobile Phone
- Power Supply for DVD/STB

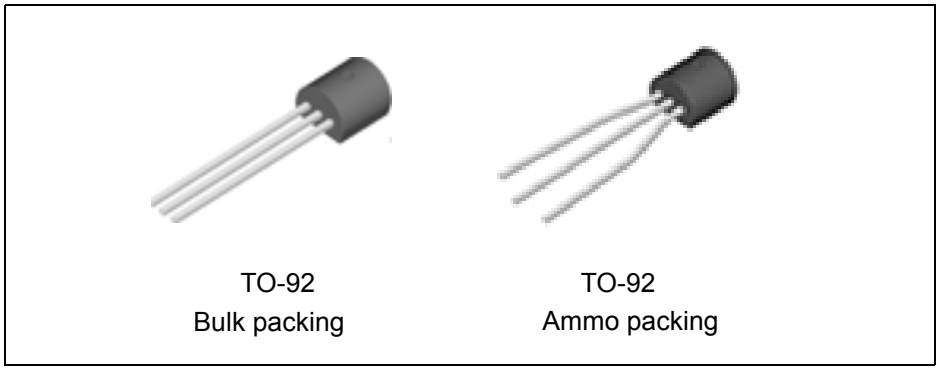


Figure 1. Package Types of APT27

Pin Configuration

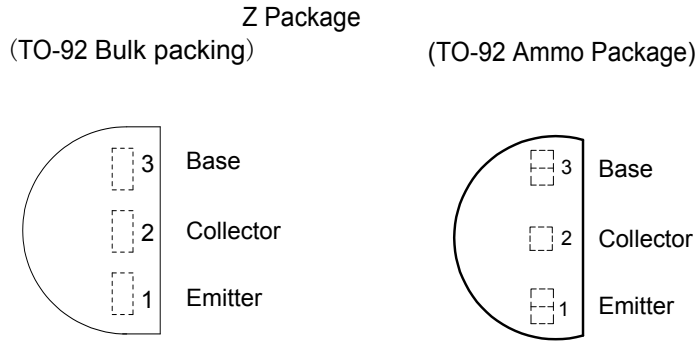
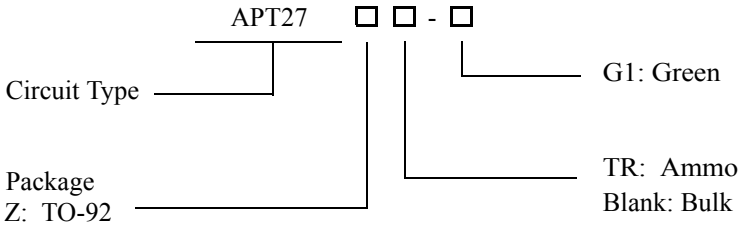


Figure 2. Pin Configurations of APT27 (Top View)

HIGH VOLTAGE NPN TRANSISTOR **APT27**

Ordering Information



Package	Part Number	Marking ID	Packing Type
TO-92	APT27Z-G1	APT27Z-G1	Bulk
	APT27ZTR-G1	APT27Z-G1	Ammo

BCD Semiconductor's products, as designated with "G1" suffix in the part number, are RoHS compliant and Green.

Absolute Maximum Ratings (Note 1)

Parameter	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CES}	700	V
Collector-Emitter Voltage	V_{CEO}	450	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current	I_C	0.8	A
Collector Peak Current	I_{CM}	1.6	A
Base Current	I_B	0.4	A
Base Peak Current	I_{BM}	0.8	A
Power Dissipation, T_A=25°C	P_{TOT}	0.8	W
Operating Junction Temperature		150	°C
Storage Temperature Range		-55 to 150	°C

Note 1: Stresses greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "Recommended Operating Conditions" is not implied. Exposure to "Absolute Maximum Ratings" for extended periods may affect device reliability.

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance (Junction-to-Ambient)	θ_{JA}	156.25	°C/W

Electrical Characteristics

(T_C=25°C, unless otherwise specified.)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector Cut-off Current (V_{BE}=-1.5V)	I_{CEV}	V_{CE}=700V			10	μA
Collector-Emitter Sustaining Voltage (I_B=0)	V_{CEO} (sus)	I_C=0.1mA	450			V
Collector-Emitter Saturation Voltage	V_{CE}(sat)	I_C=200mA, I_B=40mA			0.5	V
DC Current Gain	h_{FE}	I_C=100mA, V_{CE}=10V	15	23	40	
		I_C=300mA, V_{CE}=10V	6	15	30	

Typical Performance Characteristics

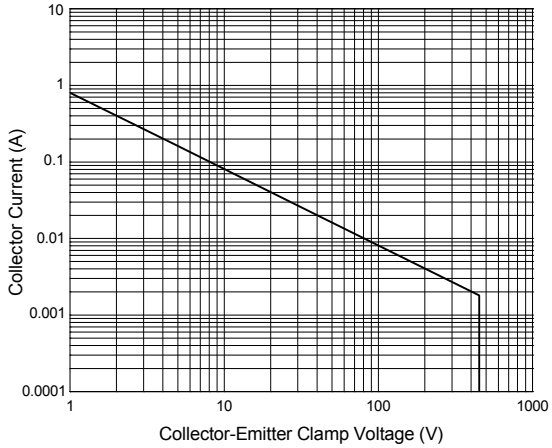


Figure 3. Safe Operating Areas

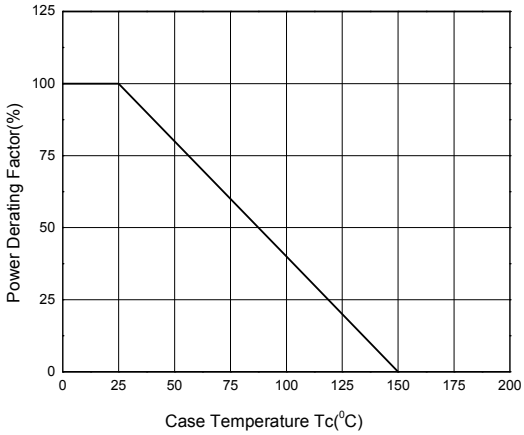


Figure 4. Power Derating Curve

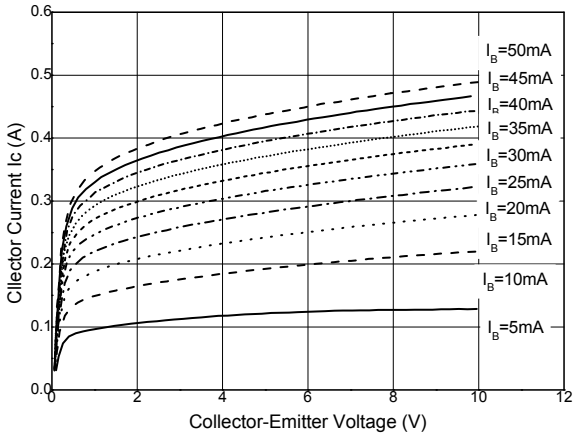


Figure 5. Static Characterstics

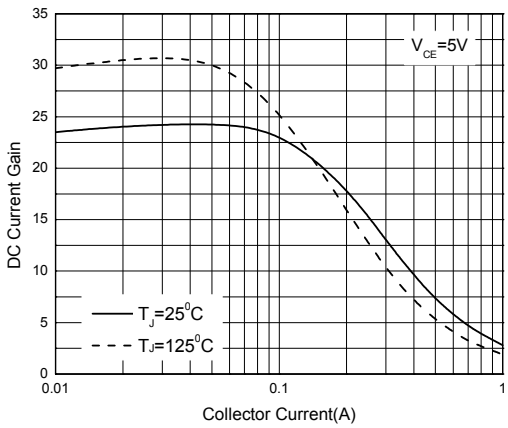


Figure 6. DC Current Gain

Typical Performance Characteristics

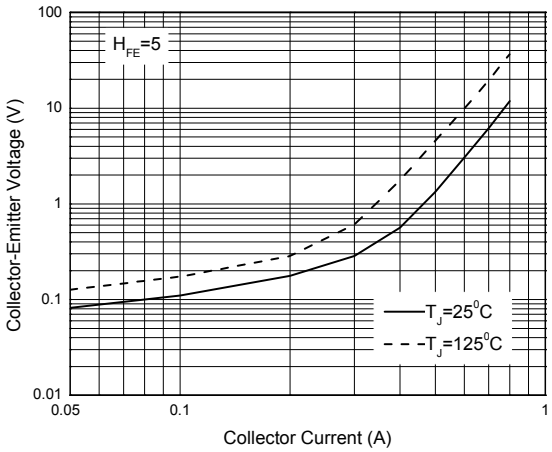


Figure 7. Collector-Emitter Saturation Region

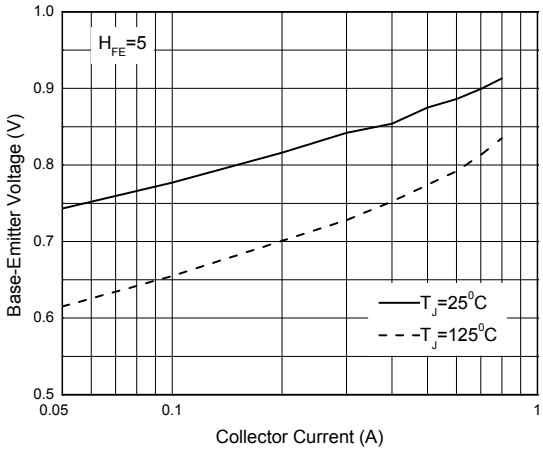
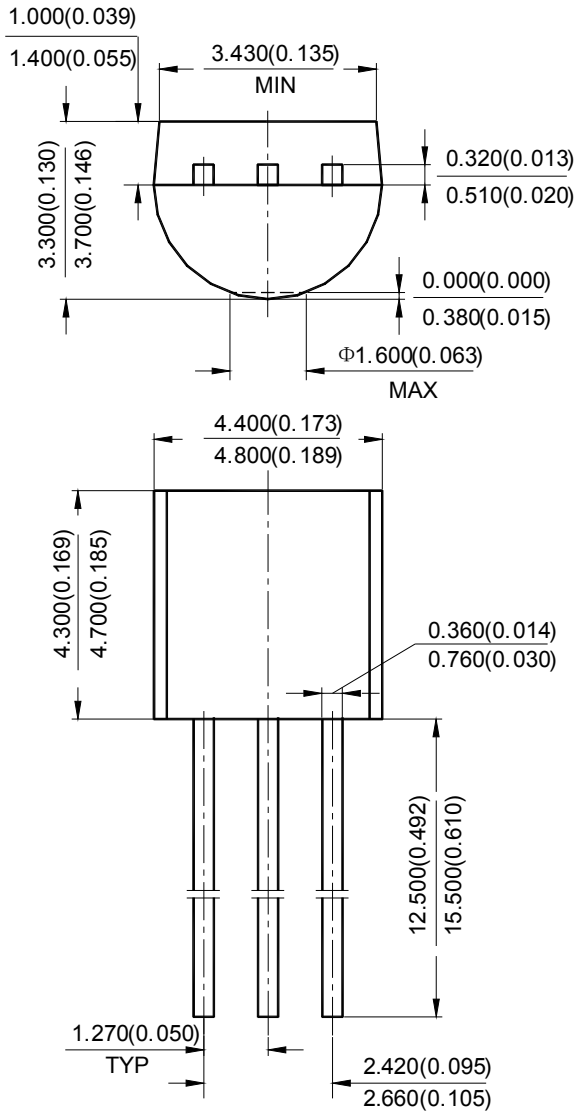


Figure 8. Base-Emitter Saturation Voltage

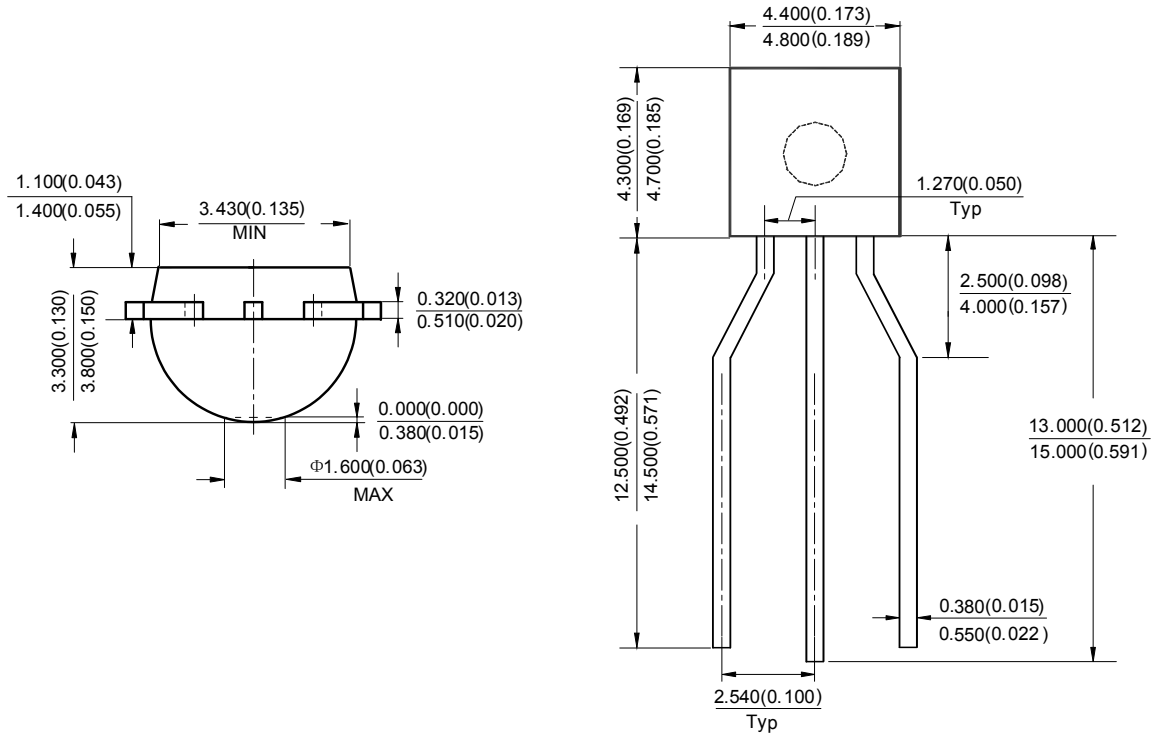
Mechanical Dimensions

TO-92 (Bulk Packing) **Unit: mm(inch)**



Mechanical Dimensions (Continued)

TO-92 (Ammo Packing) **Unit: mm(inch)**



BCD Semiconductor Manufacturing Limited

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