



● Electrical characteristic curves

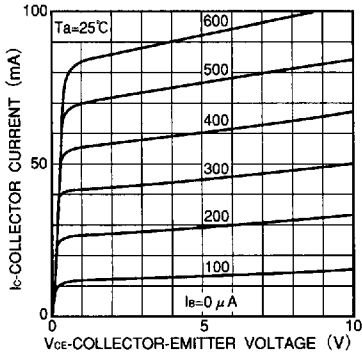


Fig.1 Grounded emitter output characteristics

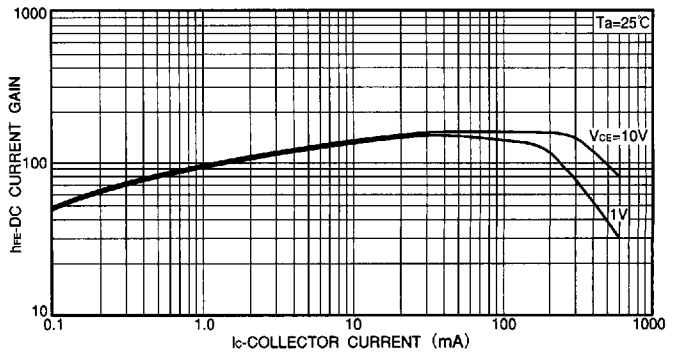


Fig.3 DC current gain vs. collector current ( I )

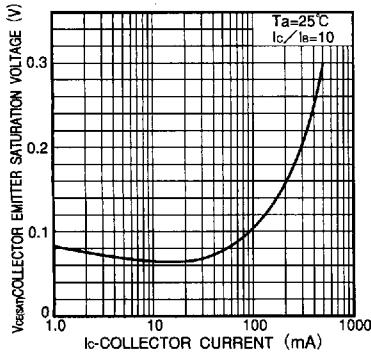


Fig.2 Collector-emitter saturation voltage vs. collector current

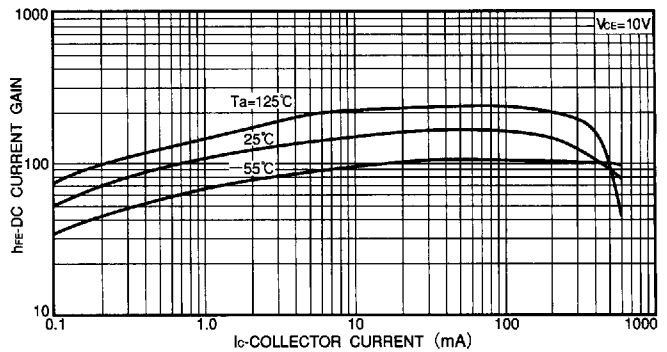


Fig.4 DC current gain vs. collector current ( II )

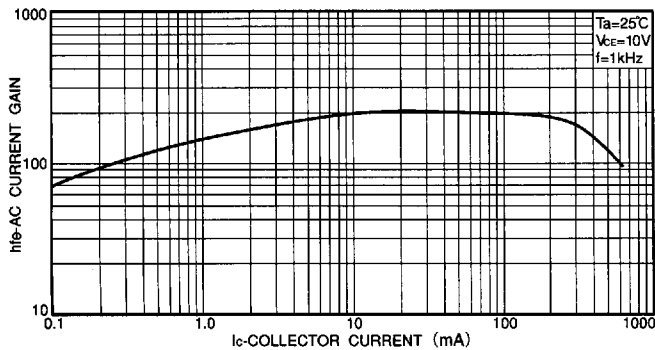


Fig.5 AC current gain vs. collector current

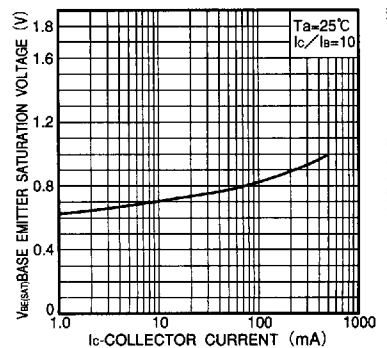


Fig.6 Base-emitter saturation voltage vs. collector current

USA & European specification models

●Electrical characteristic curves

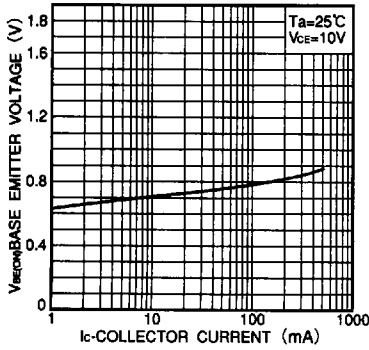


Fig.7 Grounded emitter propagation characteristics

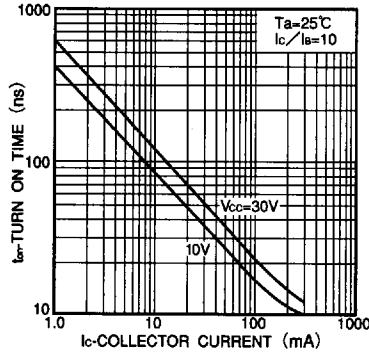


Fig.8 Turn-on time vs. collector current

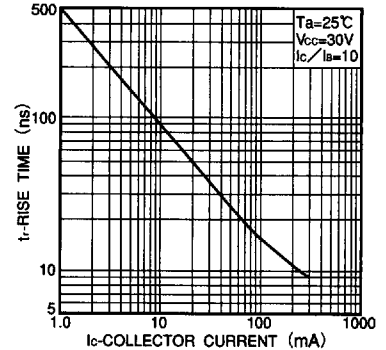


Fig.9 Rise time vs. collector current

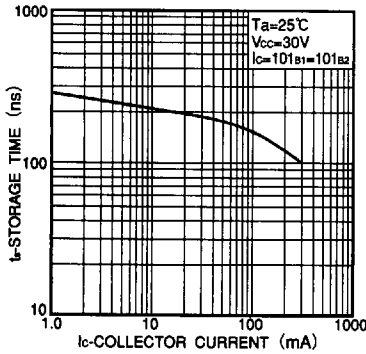


Fig.10 Storage time vs. collector current

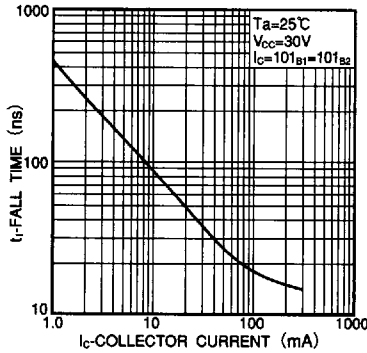


Fig.11 Fall time vs. collector current

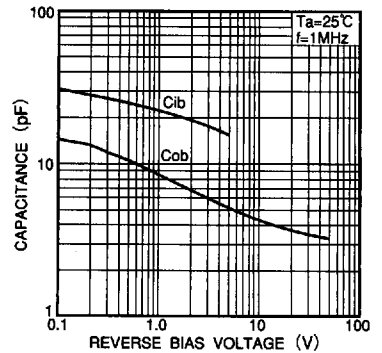


Fig.12 Input/output capacitance vs. voltage

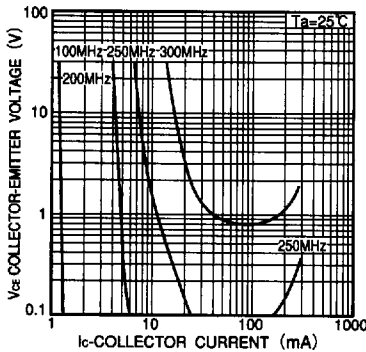


Fig.13 Gain bandwidth product

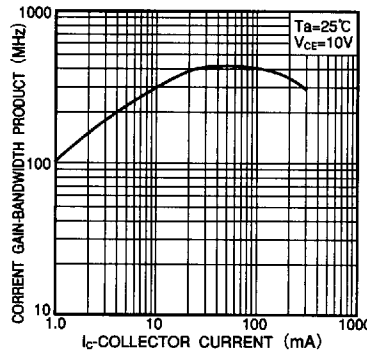
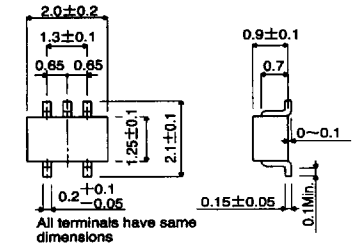
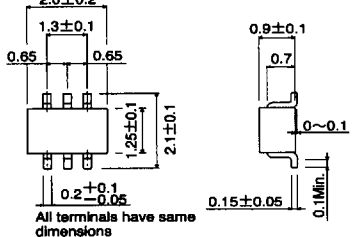


Fig.14 Gain bandwidth product vs. collector current





Type	External dimensions (Units : mm)	Features
<p>UMT5 SC-88A type</p>	 <p>All terminals have same dimensions</p>	<p>The UMT5 consists of two connected transistors or digital transistors in a UMT3 (SC-70) package. The mounting area can be reduced by 50% compared to the UMT3 and the internal circuitry is completed, making this package ideal for high density mounting at half the assembly cost.</p>
<p>UMT6 SC-88 type</p>	 <p>All terminals have same dimensions</p>	<p>The UMT6 consists of two independent transistors or two independent digital transistors in a UMT (SC-70) package. The mounting area and mounting cost can be reduced by 50% compared to the UMT3, and the two transistors are independent to allow free configuration of a high density circuit.</p>

●Types and features of leaded packages

Type	External dimensions (Units : mm)	Features
<p>SPT (SC-72 type)</p>		<p>The SPT is a smaller version of the conventional TO-92 type. The body size (3×4×2 mm<sup>3</sup>) has been reduced to 1/4 that of the TO-92 (5×5×4 mm<sup>3</sup>). The SPT is available on tape for automatic insertion, and less space is occupied on the printed circuit board than the TO-92. Reliability is the same as the TO-92.</p>
<p>FTR</p>		<p>SIL type with a height of 3.4 mm and a lead pitch of 2.54 mm.</p>
<p>FTL</p>		<p>The FTL is a radial taping version of the highly popular FTR. This enables automatic high-density mounting with a radial insertion machine.</p>
<p>ATR (SC-71 type)</p>		<p>SC-71 type with a height of 4.4 mm and a P<sub>c</sub>=1W type.</p>

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Type	External dimensions (Units : mm)	Features
<p>ATV</p>		<p>The ATV is a radial tapping version of the highly popular ATR. This enables automatic high-density mounting with a radial insertion machine.</p>
<p>TO-92 (SC-43 type)</p>		<p>The SC-43 is for general purpose small signals.</p>
<p>TO-126FP</p>		<p>The TO-126FP is an isolation type package based on a TO-126 full mold. In addition to the features of the TO-126, molded heat sink fins allow easy isolation of the heat sink.</p>
<p>TO-220FP (SC-67 type)</p>		<p>The TO-220FP is an isolation type package based on a TO-220 full mold. In addition to the features of the TO-126 and TO-220, molded heat sink fins allow easy isolation of the heat sink.</p>

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Type	External dimensions (Units : mm)	Features
TO-220FN		<p>The TO-220FN features the same performance as the TO-220FP with approximately 2 mm less height, allowing the design of slimmer devices. Furthermore, the elimination of support pins in the fin (collector electrode) solves short-circuiting problems with neighboring components and the chassis.</p> <p>To make the height to the installation hole the same as the TO-220FP, it can be replaced as is from the TO-220FP.</p>

EXPLANATION

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