This product complies with the RoHS Directive (EU 2002/95/EC).

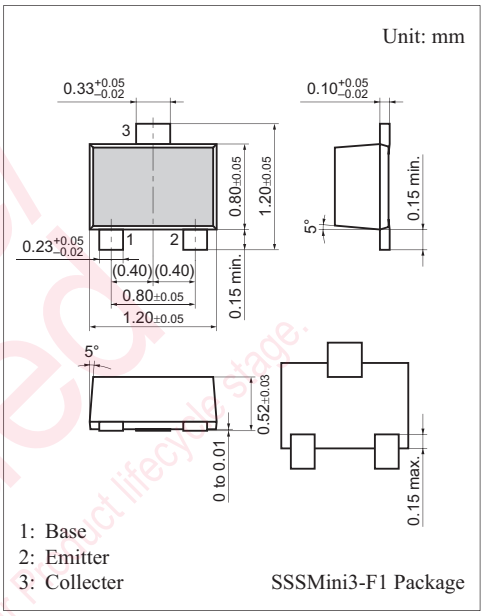
UNR32AT

Silicon NPN epitaxial planar type

For digital circuits

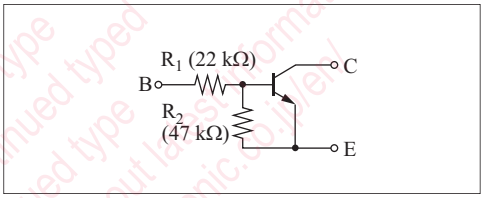
■ Features

- Suitable for high-density mounting and downsizing of the equipment
- Contribute to low power consumption



Marking Symbol: KZ

Internal Connection



■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	50	V
Collector-emitter voltage (Base open)	V_{CEO}	50	V
Collector current	I_C	80	mA
Total power dissipation	P_T	100	mW
Junction temperature	T_j	125	°C
Storage temperature	T_{stg}	−55 to +125	°C

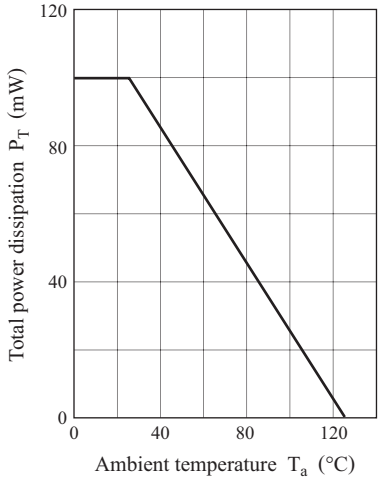
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10\ \mu A$, $I_E = 0$	50			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 2$ mA, $I_B = 0$	50			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 50$ V, $I_E = 0$			0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = 50$ V, $I_B = 0$			0.5	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 6$ V, $I_C = 0$			0.2	mA
Forward current transfer ratio	h_{FE}	$V_{CE} = 10$ V, $I_C = 5$ mA	80		400	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10$ mA, $I_B = 0.3$ mA			0.25	V
Output voltage high-level	V_{OH}	$V_{CC} = 5$ V, $V_B = 0.5$ V, $R_L = 1$ kΩ	4.9			V
Output voltage low-level	V_{OL}	$V_{CC} = 5$ V, $V_B = 2.5$ V, $R_L = 1$ kΩ			0.2	V
Input resistance	R_1		−30%	22	+30%	kΩ
Resistance ratio	R_1 / R_2		0.37	0.47	0.57	—
Transition frequency	f_T	$V_{CB} = 10$ V, $I_E = -2$ mA, $f = 200$ MHz		150		MHz

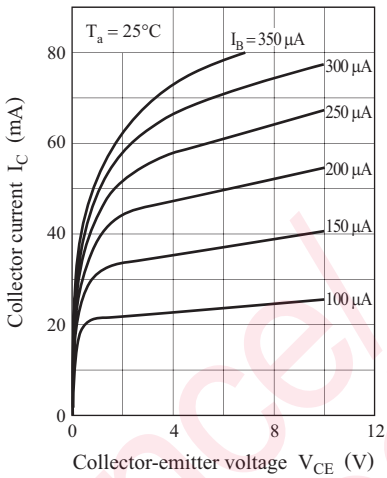
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

Maintenance/Discontinued
This product discontinued includes following four planed maintenance type
maintenance type discontinued typed
discontinued type
Please see following URL about last status information.
http://www.semicon.panasonic.co.jp/en/

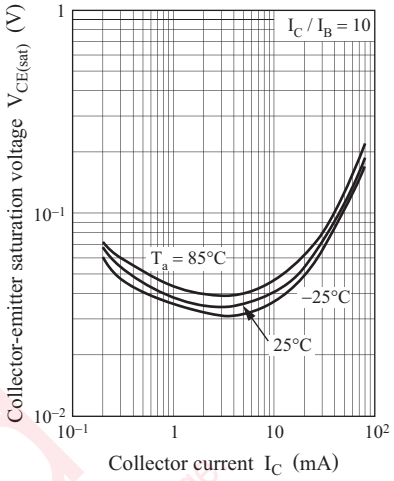
P_T — T_a



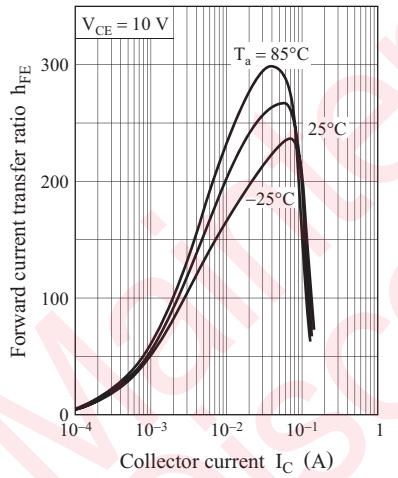
I_C — V_{CE}



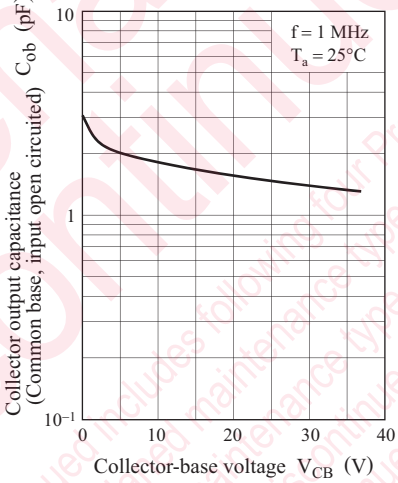
$V_{CE(sat)}$ — I_C



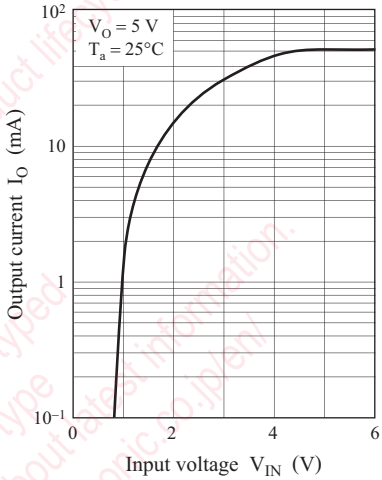
h_{FE} — I_C



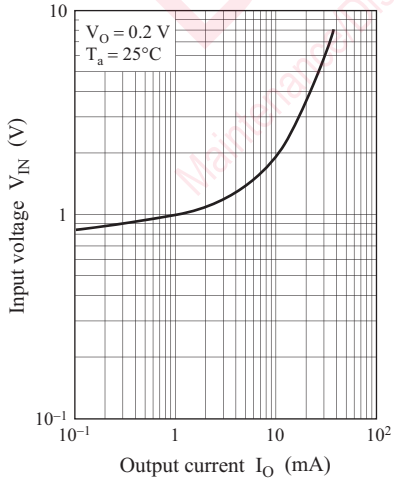
C_{ob} — V_{CB}



I_O — V_{IN}



V_{IN} — I_O



Maintenance/ Discontinued

Maintenance/discontinued includes following four product lifecycle stages:
planed maintenance type
maintenance type
planed discontinued type
discontinued type
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Maintenance/Discontinued
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