2SA1012

Plastic-Encapsulate Transistors (PNP)

Features

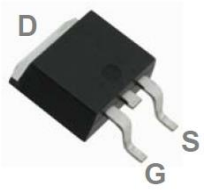
- High Current Switching Applications.
- Low Collector Saturation Voltage
- High Speed Swithing Time
- RoHS compliant package

Applications

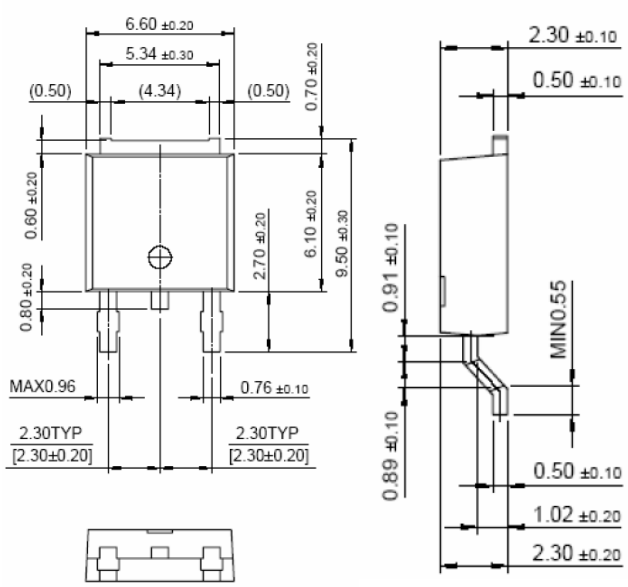
- High speed switching

Packing & Order Information

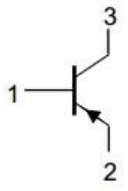
3,000/Reel

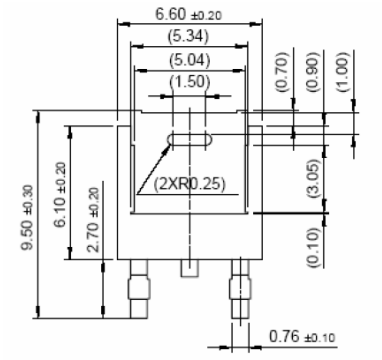


RoHS
COMPLIANT



Graphic symbol





MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

MAXIMUM RATING @ Ta=25˚C unless otherwise specified

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-5	A
P_C	Collector Dissipation	1.25	W
$R_{\theta JA}$	Thermal resistance junction to ambient	100	°C/W
Tj	Junction Temperature	150	°C
Tstg	Storage Temperature Range	-55 to +150	°C

2SA1012

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified						
Symbol	**Parameter**	**Test Conditions**	**MIN**	**TYP**	**MAX**	**UNIT**
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C = -0.1mA , I_E = 0	-60			V
$V_{(BR)CEO}$*	Collector-emitter breakdown voltage	I_C = -10mA , I_B = 0	-50			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E = -10μA , I_C = 0	-5			V
I_{CBO}	Collector cut-off current	V_{CB} = -50 V , I_E = 0			-1	μA
I_{EBO}	Emitter cut-off current	V_{EB} = -5 V , I_C = 0			-1	μA
$h_{FE(1)}$	DC current gain	V_{CE} = -1 V , I_C = -1 A	70		240	
$h_{FE(2)}$*		V_{CE} = -1 V , I_C = -3 A	30			
$V_{CE(sat)}$*	Collector-emitter saturation voltage	I_C = -3 A , I_B = -150mA			-0.4	V
$V_{BE(sat)}$*	Base-emitter saturation voltage	I_C = -3 A , I_B = -150mA			1.2	V
f_T	Transition frequency	V_{CE} = -4 V , I_C = -1 A		60		MHz
C_{ob}	Collector output capacitance	V_{CB} = -10 V , I_E = 0 f = 1.0MHz		170		pF
t_{on}	Turn-on Time	V_{CC} = -30 V, I_C = -3 A I_{B1} = -I_{B2} = -0.15 A		0.1		μs
t_s	Storage time			1.0		
t_f	Fall time			0.1		

*Pulse test: tp≤300μs, δ≤0.02.

CLASSIFICATION of $h_{FE(1)}$		
Rank	**O**	**Y**
Range	70-140	120-240

2SA1012

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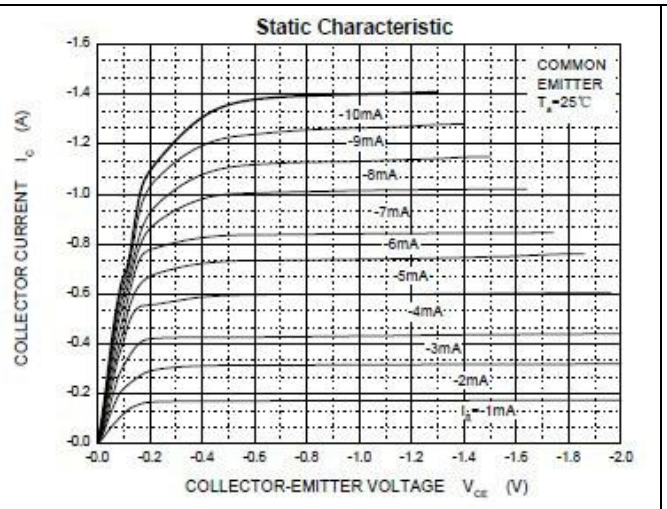
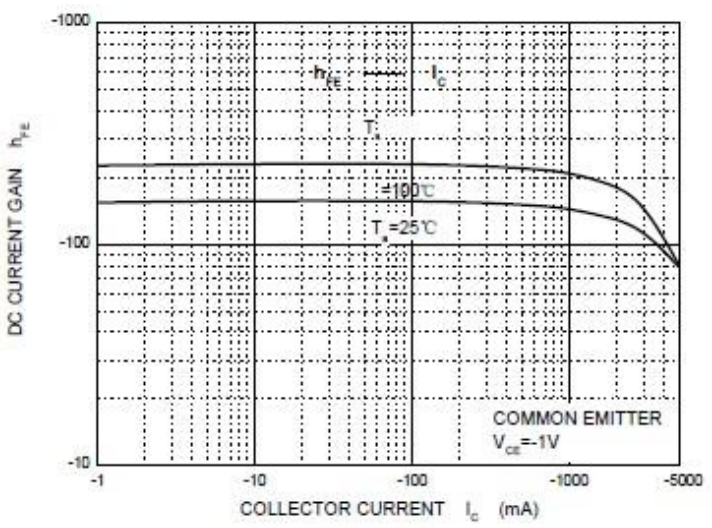
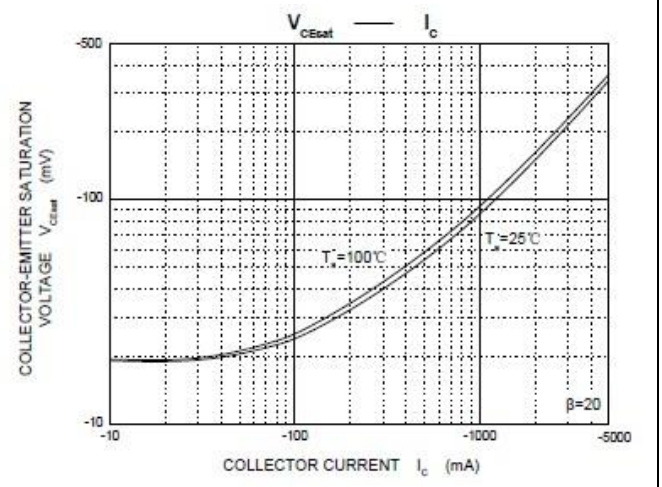
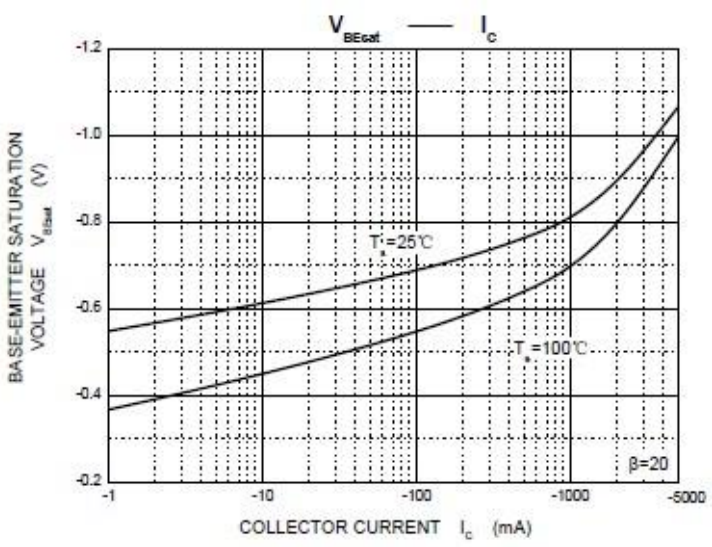
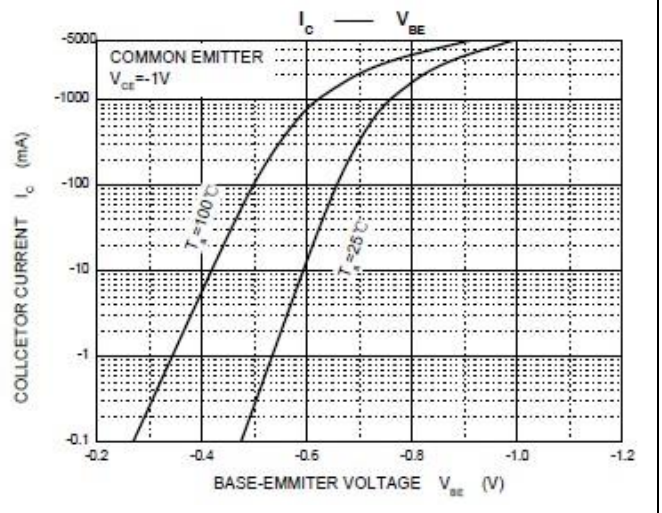
■Typical Characterisitics

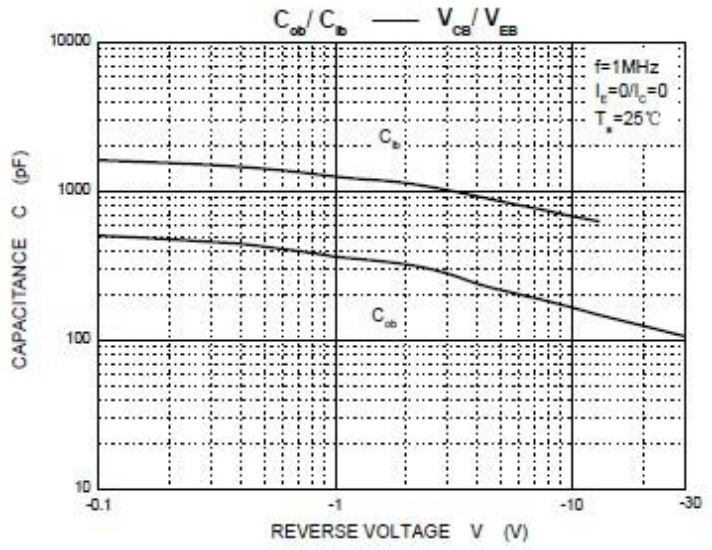












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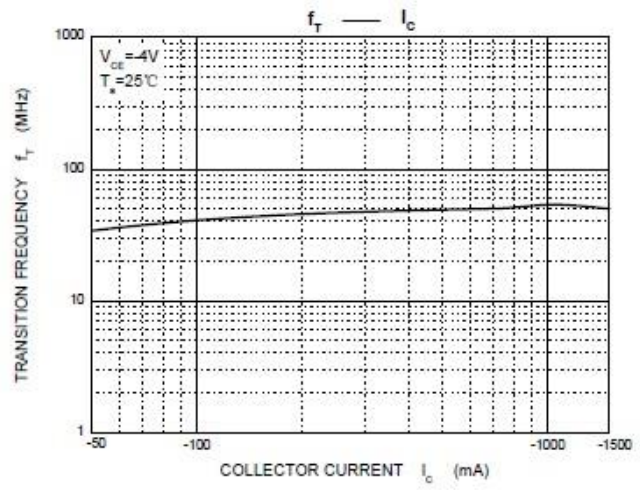

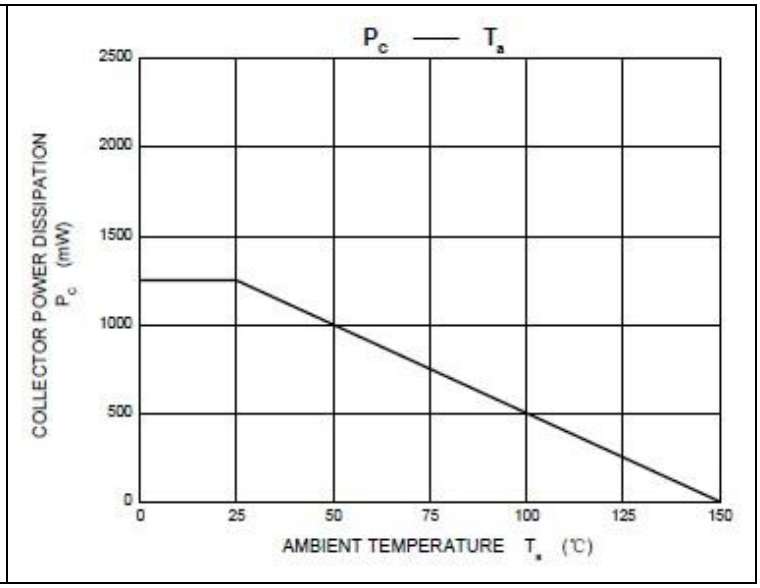

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