

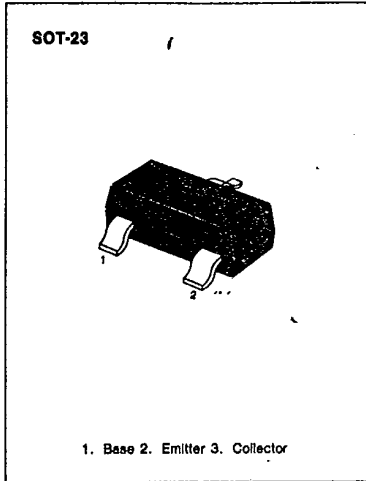
MMBT2222

NPN EPITAXIAL SILICON TRANSISTOR

GENERAL PURPOSE TRANSISTOR

ABSOLUTE MAXIMUM RATINGS (T_a = 25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V _{CB0}	60	V
Collector-Emitter Voltage	V _{CE0}	30	V
Emitter-Base Voltage	V _{EB0}	5	V
Collector Current	I _C	600	mA
Collector Dissipation	P _C	350	mW
Storage Temperature	T _{stg}	150	°C

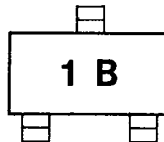


ELECTRICAL CHARACTERISTICS (T_a = 25°C)

Characteristic	Symbol	Test Condition	Min	Max	Unit
Collector-Base Breakdown Voltage	BV _{CB0}	I _C = 10μA, I _E = 0	60		V
Collector-Emitter Breakdown Voltage	BV _{CE0}	I _C = 10mA, I _B = 0	30		V
Emitter-Base Breakdown Voltage	BV _{EB0}	I _E = 10μA, I _C = 0	5		V
Collector Cutoff Current	I _{CX}	V _{CE} = 60V, V _{BE} = 3V		10	μA
Collector Cutoff Current	I _{CB0}	V _{CB} = 50V, I _E = 0		0.01	μA
DC Current Gain	h _{FE}	V _{CE} = 10V, I _C = 0.1mA	35		
		V _{CE} = 10V, I _C = 1.0mA	50		
		V _{CE} = 10V, I _C = 10mA	75		
		*V _{CE} = 10V, I _C = 150mA	100	300	
*Collector-Emitter Saturation Voltage	V _{CE} (sat)	I _C = 150mA, I _B = 15mA		0.4	V
		I _C = 500mA, I _B = 50mA		1.6	V
*Base-Emitter Saturation Voltage	V _{BE} (sat)	I _C = 150mA, I _B = 15mA		1.3	V
		I _C = 500mA, I _B = 50mA		2.6	V
Current Gain-Bandwidth Product	f _T	I _C = 20mA, V _{CE} = 20V f = 100MHz	250		MHz
Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0 f = 1.0MHz		8.0	pF
Turn On Time	t _{on}	V _{CC} = 30V, V _{BE} = 0.5V I _C = 150mA, I _{B1} = 15mA		35	ns
Turn Off Time	t _{off}	V _{CC} = 30V, I _C = 150mA I _{B1} = I _{B2} = 15mA		285	ns

*Pulse test: Pulse Width < 300μs, Duty Cycle < 2%

Marking

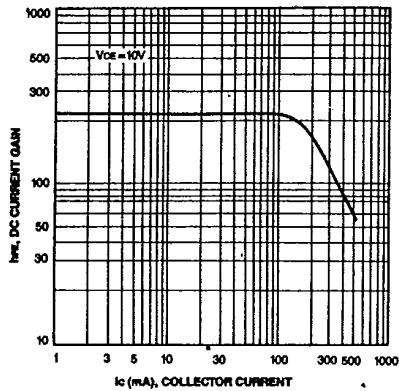


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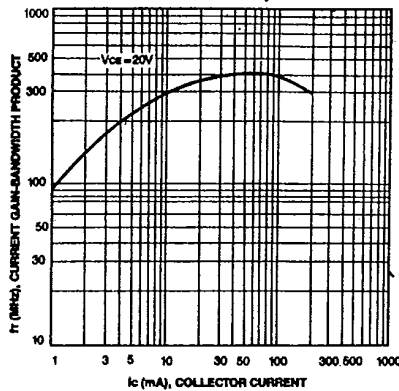
NPN EPITAXIAL SILICON TRANSISTOR

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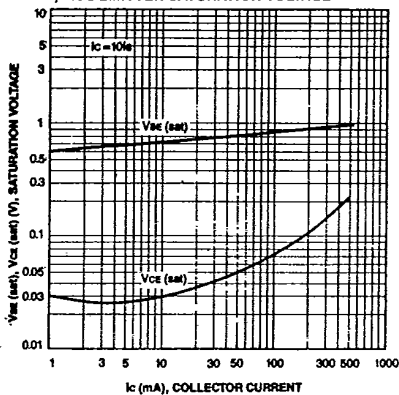
DC CURRENT GAIN



CURRENT GAIN-BANDWIDTH PRODUCT



COLLECTOR-EMITTER SATURATION VOLTAGE
BASE-EMITTER SATURATION VOLTAGE



OUTPUT CAPACITANCE

