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Manufacturers of World Class Discrete Semiconductors

MPS3704
MPS3705
MPS3706

SILICON NPN TRANSISTOR

JEDEC TO-92 CASE (EBC)

DESCRIPTION

The CENTRAL SEMICONDUCTOR MPS3704 thru MPS3706 are NPN silicon planar transistors for general purpose switching and amplifier applications.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL	MPS3704		UNIT
		MPS3705	MPS3706	
Collector-Base Voltage	V_{CB0}	50	40	V
Collector-Emitter Voltage	V_{CE0}	30	20	V
Emitter-Base Voltage	V_{EB0}	5.0	5.0	V
Collector Current	I_C	600	600	mA
Power Dissipation	P_D	625	625	mW
Operating and Storage Junction Temperature	T_J, T_{STG}	-65 TO +150		$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

SYMBOL	TEST CONDITIONS	MPS3704		MPS3705		MPS3706		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CB0}	$V_{CB}=20\text{V}$		100		100		100	nA
I_{EB0}	$V_{EB}=3.0\text{V}$		100		100		100	nA
BV_{CB0}	$I_C=100\mu\text{A}$	50		50		40		V
BV_{CE0}	$I_C=10\text{mA}$	30		30		20		V
BV_{EB0}	$I_E=100\mu\text{A}$	5.0		5.0		5.0		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$		0.6		0.8		1.0	V
$V_{BE(ON)}$	$V_{CE}=2.0\text{V}, I_C=100\text{mA}$	0.5	1.0	0.5	1.0	0.5	1.0	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=50\text{mA}$	100	300	50	100	30	600	
f_T	$V_{CE}=2.0\text{V}, I_C=50\text{mA}, f=20\text{MHz}$	100		100		100		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		12		12		12	pF