

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

MPS650 MPS651 NPN TO-92 EBC
MPS750 MPS751 PNP TO-92 EBC
CENW650 CENW651 NPN TO-237 EBC
CENW750 CENW751 PNP TO-237 EBC

COMPLEMENTARY SILICON SMALL
SIGNAL TRANSISTORS

DESCRIPTION

The CENTRAL SEMICONDUCTOR MPS/CENW650, MPS/CENW750 series types are complementary silicon transistors mounted in an epoxy case and designed for general purpose amplifier and switching application requiring high gain at a high collector current.

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

	SYMBOL	MPS650 CENW650	MPS651 CENW651	MPS750 CENW750	MPS751 CENW751	UNIT
Collector-Base Voltage	V_{CB0}	60	80	60	80	V
Collector-Emitter Voltage	V_{CE0}	40	60	40	60	V
Emitter-Base Voltage	V_{EB0}	5.0	5.0	5.0	5.0	V
Collector Current	I_C	2.0	2.0	2.0	2.0	A
Power Dissipation (TO-92 case)	P_D	625	625	625	625	mW
Power Dissipation (TO-237 case)	P_D	1.0	1.0	1.0	1.0	W
Power Dissipation ($T_C=25^\circ\text{C}$) (TO-92 case)	P_D	1.5	1.5	1.5	1.5	W
Power Dissipation ($T_C=25^\circ\text{C}$) (TO-237 case)	P_D	2.5	2.5	2.5	2.5	W
Operating and Storage						
Junction Temperature	T_J, T_{STG}		-65 TO +150			$^\circ\text{C}$
Thermal Resistance (TO-92 case)	θ_{JA}		200			$^\circ\text{C/W}$
Thermal Resistance (TO-237 case)	θ_{JA}		125			$^\circ\text{C/W}$
Thermal Resistance (TO-92 case)	θ_{JC}		83.3			$^\circ\text{C/W}$
Thermal Resistance (TO-237 case)	θ_{JC}		50			$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MPS/CENW650		MPS/CENW651		UNIT
		MIN	MAX	MIN	MAX	
I_{CB0}	$V_{CB}=60\text{V}$		0.1		-	μA
I_{CB0}	$V_{CB}=80\text{V}$		-		0.1	μA
I_{EB0}	$V_{EB}=4.0\text{V}$		0.1		0.1	μA
BV_{CB0}	$I_C=100\mu\text{A}$	60		80		V
BV_{CE0}	$I_C=10\text{mA}$	40		60		V
BV_{EB0}	$I_E=10\mu\text{A}$	5.0		5.0		V
$V_{CE}(\text{SAT})$	$I_C=1.0\text{A}, I_B=100\text{mA}$		0.3		0.3	V
$V_{CE}(\text{SAT})$	$I_C=2.0\text{A}, I_B=200\text{mA}$		0.5		0.5	V
$V_{BE}(\text{ON})$	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$		1.0		1.0	V
$V_{BE}(\text{SAT})$	$I_C=1.0\text{A}, I_B=100\text{mA}$		1.2		1.2	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=50\text{mA}$	75		75		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	75		75		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$	75		75		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=2.0\text{A}$	40		40		
f_T	$V_{CE}=5.0\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	75		75		MHz