

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N6040 2N6041 2N6042 PNP
2N6043 2N6044 2N6045 NPN

COMPLEMENTARY SILICON POWER
DARLINGTON TRANSISTOR

JEDEC TO-220AB CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N6040, 2N6043 series types are Silicon Complementary Plastic Power Transistors manufactured by the epitaxial base process designed for general purpose amplifier applications.

MAXIMUM RATINGS (T_C=25°C unless otherwise noted)

	SYMBOL	2N6040 2N6043	2N6041 2N6044	2N6042 2N6045	UNIT
Collector-Base Voltage	V _{CB0}	60	80	100	V
Collector-Emitter Voltage	V _{CE0}	60	80	100	V
Emitter-Base Voltage	V _{EB0}	5.0	5.0	5.0	V
Collector Current	I _C	10	10	10	A
Collector Current (Peak)	I _{CM}	16	16	16	A
Base Current	I _B	250	250	250	mA
Power Dissipation	P _D	75	75	75	W
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 TO +150			°C
Thermal Resistance	θ _{JC}	1.67			°C/W

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITONS	MIN	MAX	UNIT
I _{CB0}	V _{CB} =Rated V _{CB0}		20	μA
I _{CEV}	V _{CE} =Rated V _{CE0} , V _{BE} (OFF)=1.5V		20	μA
I _{CEV}	V _{CE} =Rated V _{CE0} , V _{BE} (OFF)=1.5V, T _C =150°C		200	μA
I _{CE0}	V _{CE} =Rated V _{CE0}		20	μA
I _{EB0}	V _{BE} =5.0V		2.0	mA
BV _{CE0}	I _C =100mA (2N6040, 2N6043)	60		V
BV _{CE0}	I _C =100mA (2N6041, 2N6044)	80		V
BV _{CE0}	I _C =100mA (2N6042, 2N6045)	100		V
V _{CE} (SAT)	I _C =4.0A, I _B =16mA (2N6040, 2N6043)		2.0	V
V _{CE} (SAT)	I _C =4.0A, I _B =16mA (2N6041, 2N6044)		2.0	V
V _{CE} (SAT)	I _C =3.0A, I _B =12mA (2N6042, 2N6045)		2.0	V
V _{CE} (SAT)	I _C =8.0A, I _B =80mA		4.0	V
V _{BE} (SAT)	I _C =8.0A, I _B =80mA		4.5	V
V _{BE} (ON)	V _{CE} =4.0V, I _C =4.0A		2.8	V
h _{FE}	V _{CE} =4.0V, I _C =4.0A (2N6040, 2N6043)	1,000	10,000	
h _{FE}	V _{CE} =4.0V, I _C =4.0A (2N6041, 2N6044)	1,000	10,000	
h _{FE}	V _{CE} =4.0V, I _C =3.0A (2N6042, 2N6045)	1,000	10,000	
h _{FE}	V _{CE} =4.0V, I _C =8.0A	100	-	
h _{fe}	V _{CE} =4.0V, I _C =3.0A, f=1.0kHz	300	-	
f _T	V _{CE} =4.0V, I _C =3.0A, f=1.0MHz	4.0		MHz
C _{ob}	V _{CB} =10V, I _E =0, f=100kHz, (NPN Types)		200	pF
C _{ob}	V _{CB} =10V, I _E =0, f=100kHz, (PNP Types)		300	pF