

TECHNICAL DATA
DATA SHEET 726, REV –
Formerly part number SHD4464

SMALL SIGNAL TRANSISTOR

DESCRIPTION: AN NPN SMALL SIGNAL TRANSISTOR IN A SURFACE CERAMIC LCC-4 PACKAGE.

MAXIMUM RATINGS

(ALL RATINGS ARE AT $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED).

RATING	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Collector-Emitter Voltage (V_{CEO})	-	-	-	150	Vdc
Collector-Base Voltage (V_{CBO})	-	-	-	150	Vdc
Emitter-Base Voltage (V_{EBO})	-	-	-	6.0	Vdc
Collector Current-Continuous (I_C)	-	-	-	300	mAdc
Total Power Dissipation ($P_D @ T_C = 25^\circ\text{C}$)	-	-	-	0.45	W
Derate above 25°C					mW/ $^\circ\text{C}$
Thermal Resist. Junction to Case $R\theta_{JC}$	-	-	-	285	$^\circ\text{C}/\text{W}$
Operating Junction and Storage Temp. (T_J & T_{stg})	-	-65	-	+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

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

OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage $V_{(BR)CEO}$ (1)	$I_C = 10\text{mAdc}$, $I_B = 0$	150	-	-	Vdc
Collector-Base Breakdown Voltage $V_{(BR)CBO}$	$I_C = 10\mu\text{Adc}$, $I_E = 0$	150	-	-	Vdc
Emitter-Base Breakdown Voltage $V_{(BR)EBO}$	$I_E = 10\mu\text{Adc}$, $I_C = 0$	6.0	-	-	Vdc
Collector Cutoff Current (I_{CBO})	$V_{CB} = 75\text{Vdc}$, $I_E = 0$	-	-	0.05	μAdc
	$V_{CB} = 75\text{Vdc}$, $I_E = 0$, $T_A = 150^\circ\text{C}$	-	-	50	μAdc
Emitter Cutoff Current (I_{EBO})	$V_{EB} = 4.0\text{Vdc}$, $I_C = 0$	-	-	25	nAdc

ON CHARACTERISTICS

DC Current Gain (h_{FE}) ($V_{CE} = 10\text{Vdc}$)	$I_C = 0.1\text{ mAdc}$ $I_C = 1.0\text{ mAdc}$ $I_C = 10\text{ mAdc}$ (1) $I_C = 150\text{ mAdc}$ (1) $I_C = 300\text{ mAdc}$ (1)	35 50 75 100 20	-		-
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SMALL-SIGNAL CHARACTERISTICS

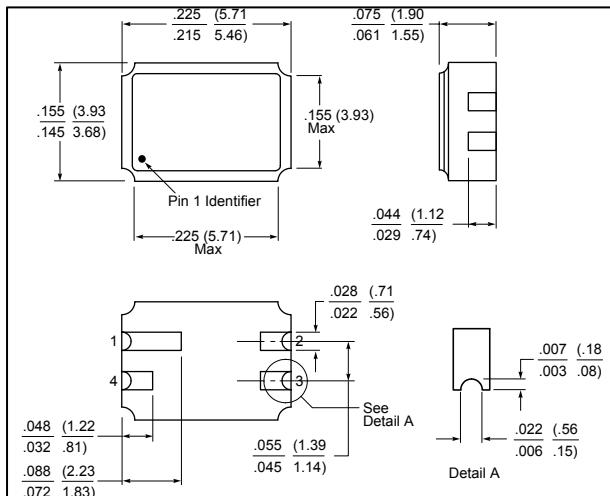
Current Gain, Bandwidth (2) (f_T)	$V_{CE} = 20\text{Vdc}$, $I_C = 20\text{mAdc}$, $f = 100\text{MHz}$	150	-	-	MHz
Output Capacitance (C_{obo})	$V_{CB} = 10\text{Vdc}$, $I_E = 0$, $f = 1.0\text{ MHz}$	-	-	8.0	pF

RATING	CONDITIONS	MIN.	TYP.	MAX.	UNITS
SMALL-SIGNAL CHARACTERISTICS (Continued)					
Input Capacitance (C _{ib0})	V _{EB} = 0.5 Vdc, I _C = 0, f = 1.0 MHz	-	-	80	pF
Delay Time (t _d)	(I _C = 150 mA, I _{B1} = 15 mA, V _{CC} = 100Vdc, V _{BE(off)} = -2.0Vdc)	-	20	-	ns
Rise Time (t _r)	(I _C = 150 mA, I _{B1} = 15 mA, V _{CC} = 100Vdc, V _{BE(off)} = -2.0Vdc)	-	35	-	ns
Storage Time (t _s)	(I _C = 150 mA, I _{B1} = I _{B2} = 15 mA, V _{CC} = 100Vdc)	-	800	-	ns
Fall Time (t _f)	(I _C = 150 mA, I _{B1} = I _{B2} = 15 mA, V _{CC} = 100Vdc)	-	80	-	ns

(1) Pulsed. Pulse Width \leq 300 μ s, Duty Cycle \leq 2.0%.

(2) f_T = I_{hfe}I \bullet f_{test}

MECHANICAL DIMENSIONS - in inches / mm



PIN 1 - COLLECTOR 1
 PIN 2 - Emitter
 PIN 3 - Base
 PIN 4 - No Connection

LCC-4

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