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## 2N6725

### Silicon NPN Darlington Transistor TO-237 Type Package

**Description:**

The 2N6725 is a silicon NPN Darlington power transistors designed for amplifier applications.

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Collector-Base Voltage, $V_{CBO}$ .....	60V
Collector-Emitter Voltage, $V_{CEO}$ .....	50V
Emitter-Base Voltage, $V_{EBO}$ .....	12V
Continuous Collector Current, $I_C$ .....	2A
Continuous Base Current, $I_B$ .....	0.5A
Power Dissipation, $P_D$ $T_C = +25^\circ\text{C}$ .....	2W
Operating Junction Temperature Range, $T_J$ .....	-65° to +150°C
Storage Temperature Range, $T_{stg}$ .....	-65° to +150°C
Thermal Resistance, Junction-to-Case, $R_{thJC}$ .....	62.5°C/W

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\mu\text{A}, I_E = 0$	60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$ (Note 1)	50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	10	-	-	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 30\text{V}, I_E = 0$	-	-	1.0	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 8\text{V}, I_C = 0$	-	-	0.1	$\mu\text{A}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 200\text{mA}, I_B = 2\text{mA}$ (Note 1)	-	-	1.0	V
		$I_C = 1\text{A}, I_B = 2\text{mA}$ (Note 1)	-	-	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1\text{A}, I_B = 2\text{mA}$ (Note 1)	-	-	2.0	V
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	$I_C = 1\text{A}, V_{CE} = 5\text{V}^*$ (Note 1)	-	-	2.0	V
Static Forward Current Transfer Ratio	$h_{FE}$	$I_C = 200\text{mA}, V_{CE} = 5\text{V}^*$ (Note 1)	25k	-	-	
		$I_C = 500\text{mA}, V_{CE} = 5\text{V}^*$ (Note 1)	15k	-	-	
		$I_C = 1\text{A}, V_{CE} = 5\text{V}^*$ (Note 1)	4k	-	40k	
Collector Base Capacitance	$C_{CB}$	$V_{CB} = 10\text{V}, f = 1\text{MHz}$	-	-	10	pF

Note 1. Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$

