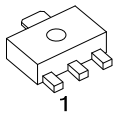
2SD2686

Preliminary ***NPN EPITAXIAL SILICON TRANSISTOR***

SILICON NPN EPITAXIAL TYPE (DARLINGTON POWER)



SOT-89

■ DESCRIPTION

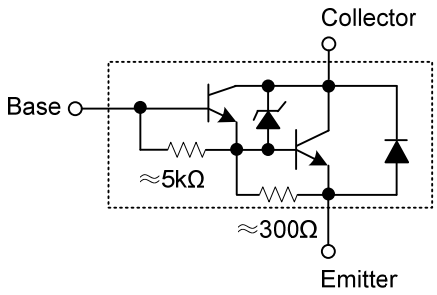
The UTC **2SD2686** is a silicon NPN epitaxial type transistors, including a zener diode between collector and base. it uses UTC's advanced technology to provide customers high DC current gain.

The UTC **2SD2686** is suitable for solenoid drive and motor drive applications.

■ FEATURES

* High DC current gain
* Zener diode included between collector and base

■ EQUIVALENT CIRCUIT



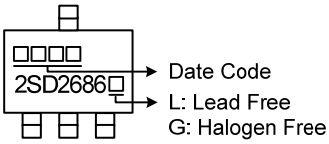
■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SD2686L-x-AB3-R	2SD2686G-x-AB3-R	SOT-89	B	C	E	Tape Reel

Note: Pin Assignment: B: Base C: Collector E: Emitter

2SD2686G-AB3-R (1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AB3: SOT-89 (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V_{CBO}	50	V
Collector-Emitter Voltage		V_{CEO}	60±10	V
Emitter-Base Voltage		V_{EBO}	8	V
Collector Current	DC	I_C	1	A
	Pulse	I_{CP}	3	A
Base Current		I_B	0.5	A
Power Dissipation (Note 2)		P_D	500	mW
Junction Temperature		T_J	150	°C
Storage Temperature		T_{STG}	-55~+150	°C

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
2. Mounted on an FR4 board (glass-epoxy; 1.6mm thick; Cu area, 645mm^2)

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=10mA, I_B=0	50	60	70	V
Collector Cut-Off Current	I_{CBO}	V_{CB}=45V, I_E=0			10	μA
	I_{CEO}	V_{CE}=45V, I_E=0			10	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=8V, I_C=0	0.8		4.0	mA
DC Current Gain	h_{FE}	V_{CE}=2V, I_C=1.0A	2000			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=0.5A, I_B=1mA			1.2	V
		I_C=1.0A, I_B=1mA			1.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=1.0A, I_B=1mA			2.0	V
Turn-On Time	t_{ON}	See specified test circuit.		0.4		μs
Storage Time	t_{STG}			4.0		μs
Fall Time	t_F			0.6		μs

■ SWITCHING TIME TEST CIRCUIT & TIMING CHART