

E38 Pinout

Conn	Pin	Wire	Ckt	System	Pull	Type	Input	TAC MCU	Type	Output	ECM Ref	Function	Notes	
					Ohm	To	Main MCU		Imp (Ohm)					
X1	1	0.35 OG/BK	1786		3.1k	SBAT	LDI	A AN2				Park/Neutral Switch Signal		
X1	2	0.5 GY/BK	1694		3.1k	SBAT	LDI	SPI				4WD Low Switch Signal		
X1	3	0.5 TN/WH	1695		3.1k	GND	HDI	SPI				4WD Mode/2Sp Axle/Brake Switch B Signal	Cal Selectable	
X1	4	0.5 PU/WH	1035		1.2k	GND	HDI	A AN1				Starter Relay Coil Supply Voltage	Starter LSD	
X1	5				1.2k	GND	HDI	MPIO32B14				PTO Engine Shutdown Request Signal	PTO	
X1	6	0.35 GY	48		1.2k	GND	HDI	SPI				Clutch Pedal Switch B Signal	MT Clutch	
X1	7				1.2k	GND	HDI	MPIO32B15	PT3			ETC/TCC/Brake Switch Signal	Brake	
X1	8				1.2k	SBAT	LDI	A AN3				Reverse Gear Switch Signal	MT Gear	
X1	9	0.5 L-BU/WH	6311		51k	SBAT	LDI	B AN59	PT4			Brake Switch Signal	Brake	
X1	10	0.5 PU/WH	1668				A/D	B AN2				HO2S High Signal - Bank 1 Sensor 2		
X1	11	0.5 TN/WH	1669	GND								HO2S Low Signal - Bank 1 Sensor 2		
X1	12	0.35 OG/BK	380		470k	GND	A/D	A AN57				A/C Refrigerant Pressure Sensor Signal	ACP	
X1	13	0.35 TN	5514	GND								Low Reference (ACP)	ACP	
X1	14	0.35 PU/WH	5024	GND								Low Reference - Tach Return	Tach	
X1	15				470k	GND	A/D	B AN6				BARO/EBP Sensor Signal	Cal Selectable	
X1	16	0.35 PU	1589		243	5V	A/D	B AN8				Fuel Level Sensor Signal - Primary		
X1	17	0.35 D-BU/WH	473						LSD	16B		High Speed Cooling Fan Relay Control		
X1	18	0.5 D-BU	5985		5.62k	GND	HDI	MPIO32B7				Accessory Wakeup Serial Data		
X1	19	0.5 PK	439	SRC			A/D	B AN48				Ignition 1 Voltage		
X1	20	0.5 RD/WH	440	SRC								Battery Positive Voltage		
X1	21				470k	GND	A/D	B AN51				Brake Booster Pressure Signal		
X1	22					GND						Low Reference		
X1	23	0.35 PU	1272	GND								Low Reference (APP2)	APP	
X1	24	0.35 D-GN	890		470k	GND	A/D	A AN53				Fuel Tank Pressure Sensor Signal		
X1	25	0.35 BN	846						LSD	161		AIR Pump Relay Control	AIR LZ4	
X1	26	D-BU	6306		220k	GND	A/D	B AN56				Clutch Pedal Position Sensor Signal	Clutch	
X1	27	0.5 TN/BK	2501	GMHS-L								High Speed GMLAN Serial Data Bus (-)		
X1	28	0.5 TN/BK	2500	GMHS-H								High Speed GMLAN Serial Data Bus (+)		
X1	29	0.35 D-BU	1161		220k	GND	A/D	A AN50	AN00			APP Sensor 1 Signal	APP	
X1	30	0.35 BN	1271	GND								Low Reference (APP1)	APP	
X1	31	0.35 TN/BK	6049	GND								Low Reference (FTP, Fuel Level)	FTP	
X1	32	0.35 L-BU	1162		220k	GND	A/D	A AN51	AN01	LSD	33	0FC	APP Sensor 2 Signal	APP
X1	33	0.35 GY	2709	5V1			A/D	B AN4	AN04			5-Volt Reference 1 (FTP)	FTP	
X1	34	0.35 GY/WH	2700	5V1								5-Volt Reference 1 (ACP)	ACP	
X1	35	0.5 TN	2760	5V1								5-Volt Reference 1		
X1	36	0.35 TN	1274	5V1								5-Volt Reference 1 (APP2)	APP	
X1	37	0.5 TN/BK	472		3.92k	5V	A/D	B AN58				IAT Sensor Signal	IAT	
X1	38	0.5 TN	2760	GND								Low Reference (IAT)	IAT	
X1	39				3.92k	5V	A/D	B AN57				Radiator Coolant Temp Sensor Signal	RCT	
X1	40				1.5k	5V	FREQ	B TPUCH6				Fuel Composition Sensor Signal	FlexFuel	
X1	41	0.5 YE	492		1.5k	5V	FREQ	B TPUCH0				MAP Sensor Signal	MAP	
X1	42	D-GN/WH	6294	GND								Low Reference (CPP)	Clutch	
X1	43				1.5k	5V	FREQ	A TPUCH11				EV Fan Speed Signal	FAN	
X1	44					GND						Low Reference		
X1	45				1.5k	5V	FREQ	A TPUCH9				IMTV Position Sensor Signal	IMTV	
X1	46				3.0k	5V	FREQ	A TPUCH13				Fuel Pump PWM Feedback Signal		
X1	47	0.5 PK/BK	1339	SRC			A/D	A AN48				Ignition 1 (Powertrain Relay) Voltage		
X1	48	0.35 WH/BK	5039						LSD	007		Tach Signal	Tach	
X1	49	0.5 TN	1671	GND								HO2S Low Signal - Bank 2 Sensor 2	Cal Selectable	
X1	50	0.35 D-GN/WH	465						HSD PWM	018		Fuel Pump Relay Control - Primary		
X1	51	0.35 TN	1465						HSD	02A		Fuel Pump Relay Control - Secondary		
X1	52	0.5 YE/BK	625						HSD	157		Starter Enable Relay Control (HSD)	Starter HSD	
X1	53				5V2		A/D	B AN5	AN05			5-Volt Reference 2		
X1	54	D-GN	6293	5V2								5-Volt Reference 2 (CPP)	Clutch	
X1	55				5V2							5-Volt Reference 2		
X1	56	0.35 WH/BK	1164	5V2								5-Volt Reference 2 (APP1)	APP	
X1	57	0.35 YE/BK	1827		2.435k	SBAT			LSD	029		Vehicle Speed Signal	Cal Selectable	
X1	58	0.35 D-GN	335						LSD PWM	07F		Low Speed Cooling Fan Relay Control		
X1	59	0.35 YE	5991						LSD	101		Powertrain Relay Coil Control		
X1	60											Low Reference		
X1	61	0.5 WH	1310						LSD	14B		EVAP Canister Vent Solenoid Control	EVAP	
X1	62								LSD	14D		IMTV Solenoid Control	IMTV	
X1	63	0.35 D-GN/WH	459						LSD	025		A/C Compressor Clutch Relay Control		
X1	64	0.5 OG/WH	3223						LSD	17D		HO2S Heater Low Control - Bank 2 Sensor 2		
X1	65	0.5 GY/WH	3122						LSD	15F		HO2S Heater Low Control - Bank 1 Sensor 2		
X1	66	0.5 GY	587						LSD	155		Skip Shift Solenoid/Fan 3/EBPV Control	Cal Selectable	
X1	67	0.35 YE/BK	625						LSD	01C		Starter Enable Relay Control (LSD)	Starter LSD	
X1	68	0.35 BN/WH	419						LSD	149		MIL Control		
X1	69	0.5 PU	1670				A/D	B AN3				HO2S High Signal - Bank 2 Sensor 2		
X1	70	0.35 L-BU	1937		243	5V	A/D	B AN16				Fuel Level Sensor Signal - Secondary		
X1	71	0.5 PU/WH	821			UP	FREQ	B TPUCH1/2				Vehicle Speed Sensor (VSS) High Signal		
X1	72	0.5 L-GN/BK	822			DN						Vehicle Speed Sensor (VSS) Low Signal		
X1	73	3 BK/WH	451	GND								Ground		
X2	1	0.5 GY	474	5V2								5-Volt Reference 2 (AIR)	AIR LZ4	
X2	2	0.35 PU/WH	6270	5V2								5-Volt Reference 2 (CKP)	CKP	
X2	3	0.35 GY	2701	5V2								5-Volt Reference 2 (TPS)	TPS	
X2	4			5V2								5-Volt Reference 2		
X2	5	0.5 BN	582						H-BRIDGE			TAC Motor Control - 2	TAC	
X2	6	0.5 YE	581						H-BRIDGE			TAC Motor Control - 1	TAC	
X2	7	0.35 PK/BK	429						LSD	143		AIR Solenoid Relay Control	AIR LZ4	
X2	8	0.5 D-GN/WH	428						LSD	081		EVAP Canister Purge Solenoid Control	EVAP	
X2	9	0.5 GY	5493						LSD	089		Cylinder Shutoff Solenoid Control (3)		
X2	10	0.5 D-BU	5491						LSD	085		Cylinder Shutoff Solenoid Control (1)		
X2	11	0.5 OG	5494						LSD	088		Cylinder Shutoff Solenoid Control (4) Reverse Lockout Solenoid Control	Cal Selectable	
X2	12	0.5 GY/WH	3113						LSD	15D		HO2S Heater Low Control - Bank 1 Sensor 1		
X2	13	0.5 L-GN	3212						LSD	17F		HO2S Heater Low Control - Bank 2 Sensor 1		
X2	14	0.5 L-GN/BK	5492						LSD	087		Cylinder Shutoff Solenoid Control (2)		
X2	15								HSD	064		Camshaft Actuator Solenoid B/EGR Solenoid Control	EGR LNJ	
X2	16	0.35 PU	5284						HSD	066		Camshaft Actuator Solenoid A Control	Cal Selectable	
X2	17	0.5 D-BU/WH	878						LSD	033		Fuel Injector 8 Control		
X2	18	0.5 TN/WH	845						LSD	038		Fuel Injector 5 Control		
X2	19	0.5 YE/BK	846						LSD	039		Fuel Injector 6 Control		
X2	20	0.5 TN	1744						LSD	031		Fuel Injector 1 Control		
X2	21	0.5 YE	410		5230+562		A/D	B AN55	Pull-Up Sel	0F2		ECT Sensor Signal	ECT	
X2	22	0.5 TN	2761	GND								Low Reference (ECT)	ECT	
X2	23	0.5 TN/WH	585		5230+562		A/D	B AN24	Pull-Up Sel	0F6/0F8		EOT/TFT Sensor Signal	EOT/TFT	
X2	24	0.5 OG/BK	586	GND								Low Reference (EOT/TFT)	Cal Selectable	
X2	25											Low Reference		
X2	26	0.8 D-BU	496									KS 1 Signal		
X2	27	0.8 GY	1716									KS 1 Signal		
X2	28											Low Reference		
X2	29	0.8 L-BU	1876									KS 2 Signal		
X2	30	0.8 GY	2303									KS 2 Signal		
X2	31											Low Reference		
X2	32	0.5 GY	23		20k	GND	FREQ	B TPUCH7				Generator Field Duty Cycle Signal (F-Term)	GEN	
X2	33	0.5 BN	1174		3.0k	5V	FREQ	A TPUCH0				Oil Level Switch/Oil Level-Temp Sensor Signal	Cal Selectable	
X2	34	0.5 BK	2755	GND								Low Reference (EOP)	EOP	
X2	35	0.35 TN	2752	GND								Low Reference (TPS)	TPS	
X2	36											??? Not Used In OS		
X2	37	0.5 L-GN/BK	1745		220k	GND	A/D	B AN7				Fuel Injector 2 Control		
X2	38	0.5 PK/BK	1746						LSD	037		Fuel Injector 3 Control		
X2	39	0.5 L-BU/BK	844						LSD	03D		Fuel Injector 4 Control		
X2	40	0.5 OG/BK	877						LSD	035		Fuel Injector 7 Control		
X2	41	0.5 GY/WH	2705	5V1								5-Volt Reference 1 (EOP)	EOP	
X2	42											5-Volt Reference 1 (CMPB/EGR)	CMP/EGR	
X2	43	0.5 GY	2704	5V1								5-Volt Reference 1 (MAP)	MAP	
X2	44	0.35 D-BU	6259	5V1								5-Volt Reference 1 (CMPA)	CMP	
X2	45											5-Volt Reference 1		
X2	46											Low Reference - Camshaft Actuator Solenoid B/EGR Solenoid Return	EGR LNJ	
X2	47											Low Reference		
X2	48				470k	GND	A/D	A AN52				AIR Pressure Sensor Signal - Bank 2	AIR	
X2	49											Low Reference		
X2	50	0.5 TN/WH	331		470k	GND	A/D	A AN59				Oil Pressure Sensor Signal	EOP	
X2	51	0.5 TN	476	GND								Low Reference (AIR)	AIR LZ4	
X2	52	0.35 TN	2199	GND								Low Reference - Camshaft Actuator Solenoid A Return	CAM	
X2	53	0.5 OG/BK	469	GND								Low Reference (MAP)	CMP	
X2	54											Low Reference (CMPB/EGR)	CMP/EGR	
X2	55											EGR Pints Position/ECU Mode Switch Signal	EGR/ECO	
X2	56	0.5 TN	1664	GND								HO2S Low Signal - Bank 1 Sensor 1	Cal Selectable	
X2	57	0.5 PU/WH	1665				A/D	B AN0				HO2S High Signal - Bank 1 Sensor 1		
X2	58	0.5 L-GN	432		470k	GND	A/D	A AN56				MAP Sensor Signal	MAP	
X2	59	0.5 PU	1666				A/D	B AN1				HO2S High Signal - Bank 2 Sensor 1		
X2	60	0.5 TN												