



Si1403CDL vs. Si1403BDL

Description: P-Channel, 20 V (D-S) MOSFET

Package: SC70-6

Pin Out: Identical

Part Number Replacements: Si1403CDL-T1-GE3 replaces Si1403BDL-T1-E3
Si1403CDL-T1-GE3 replaces Si1403BDL-T1-GE3

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted)				
PARAMETER	SYMBOL	Si1403CDL	Si1403BDL	UNIT
Drain-Source Voltage	V_{DS}	- 20	- 20	V
Gate-Source Voltage	V_{GS}	± 12	± 12	
Continuous Drain Current	I_D	$T_A = 25\text{ }^\circ\text{C}$	- 1.6	- 1.5
		$T_A = 70\text{ }^\circ\text{C}$	- 1.3	- 1.2 ^a
Pulsed Drain Current	I_{DM}	- 5	- 5	A
Continuous Source Current (MOSFET Diode Conduction)	I_S	- 0.5	- 0.8	
Power Dissipation	P_D	$T_A = 25\text{ }^\circ\text{C}$	0.6	0.625
		$T_A = 70\text{ }^\circ\text{C}$	0.4	0.4 ^a
Operating Junction and Storage Temperature Range	T_J and T_{stg}	- 55 to 150	- 55 to 150	$^\circ\text{C}$
Maximum Junction-to-Ambient	R_{thJA}	220	200	$^\circ\text{C/W}$

SPECIFICATIONS ($T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted)								
PARAMETER	SYMBOL	Si1403CDL			Si1403BDL			UNIT
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Static								
Gate-Threshold Voltage	$V_{GS(th)}$	- 0.6		- 1.5	- 0.6		- 1.3	V
Gate-Body Leakage	I_{GSS}			± 100			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}			- 1			- 1	μA
On-State Drain Current	$V_{GS} = - 4.5\text{ V}$ $I_{D(on)}$	- 2			- 2			A
Drain-Source On-Resistance	$V_{GS} = - 4.5\text{ V}$ $R_{DS(on)}$		0.116	0.140		0.120	0.150	Ω
	$V_{GS} = - 3.6\text{ V}$		0.133	0.160		0.140	0.175	
	$V_{GS} = - 2.5\text{ V}$		0.177	0.222		0.220	0.265	
Forward Transconductance	g_{fs}		5			3.4		S
Diode Forward Voltage	V_{SD}		- 0.83	- 1.2		- 0.8	- 1.1	V
Dynamic								
Total Gate Charge	Q_g		4	8		2.9	4.5	nC
Gate-Source Charge	Q_{gs}		0.7			0.65		
Gate-Drain Charge	Q_{gd}		1.4			1		
Gate Resistance	R_g	2	7	14		9		

Note

a. $T_A = 85\text{ }^\circ\text{C}$ instead of $70\text{ }^\circ\text{C}$.

Specification comparisons are supplied as a courtesy to compare two devices and do not constitute a commercial product datasheet or any guarantee of identical performance. Designers should refer to the appropriate datasheets of the same number for guaranteed specification limits.